Cost-Earnings Study of Hawaii's Charter Fishing Industry 1996-1997

Marcia S. Hamilton

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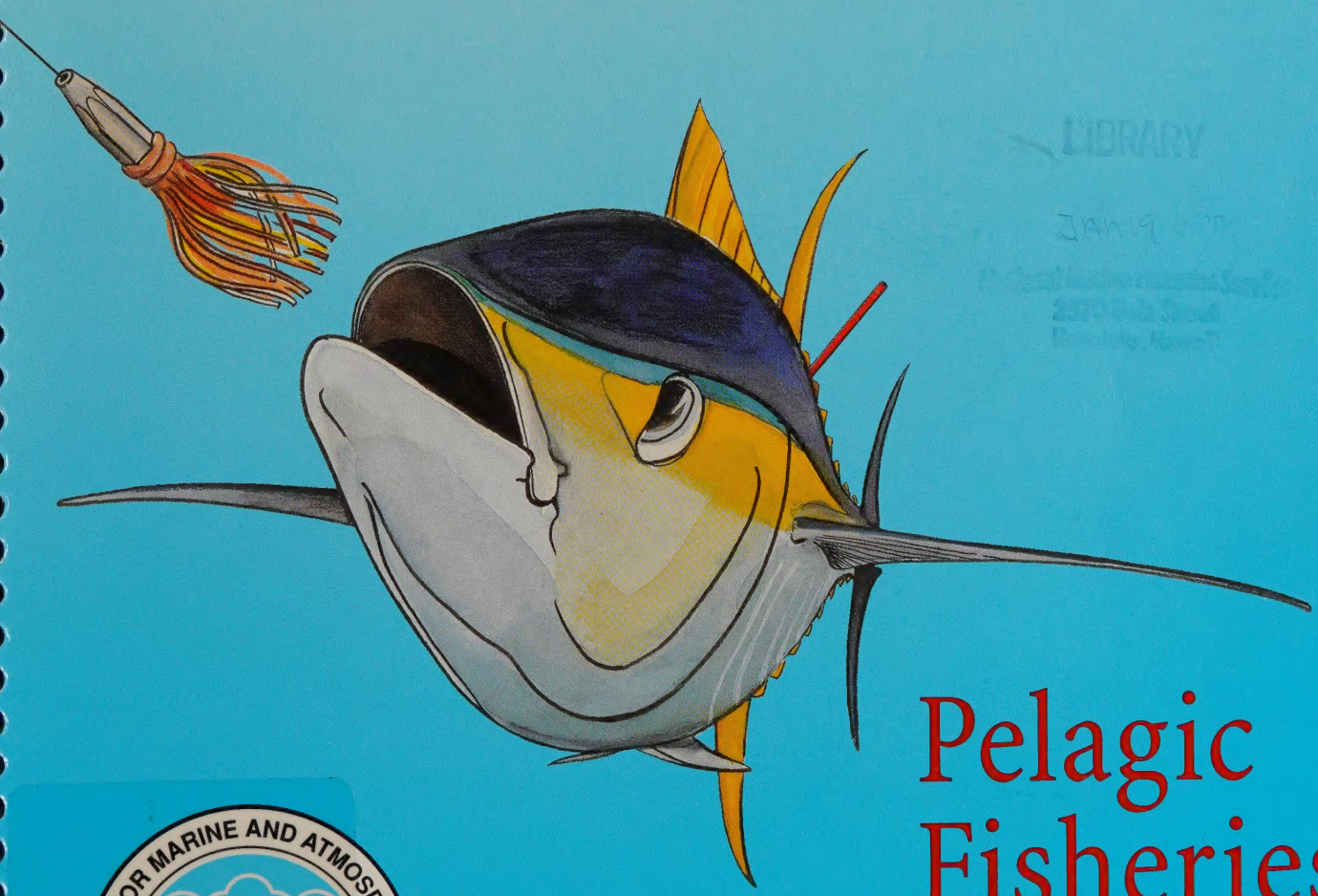

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I would like to thank the many fishermen who participated in this project Their cooperation was key to its success and illustrates their interest in responsible fishery management. I am also grateful for the input I received from other charter industry members who helped me to understand the many facets of this business. Finally, I would like to thank the staff of the NMFS Honolulu Laboratory for their assistance, and especially Sam Pooley for his support while I was "down at the docks".

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Abstract

The focus of study was Hawaii's 1996-1997 charter fishing industry. Vessel operators at major harbors statewide were surveyed through direct in-person interviews. Information was obtained on 62 moored, six-passenger charter fishing vessels. Data includes information on vessel operations and characteristics, investment, fixed costs, trip costs, annual catches and gross revenue, as well as operator demographics and the degree of involvement in the business by the vessel owner. Owners were classified into three groups: *absent owners* who have little to no involvement, *active owners* who run the business but generally do not captain the boat, and *owner operators* who run both the business and the boat. Surveys were post-stratified by port, owner involvement and vessel size. Variations in vessel operations were observed between all groups but differences in the annual number of trips taken per vessel were greatest between vessel ports, with Lahaina based vessels being the most active followed by Kauai, Maalaea, Kewalo and Honokohau based vessels respectively.

I. Introduction

This project focused on Hawaii's sportfishing charter boat industry in 1996- 1997 and was undertaken in order to gain a better understanding of both the current status of this sector and the factors which influence it. This is a baseline study which provides economic and operational information to both industry members and fishery managers.

Problems exist with the identification of charter fishing fishermen and vessels in Hawaii records. There are two specific requirements to operate a charter fishing boat (with six or less passengers) in Hawaii. First, the captain must hold a valid captain's license which is issued by the U.S.Coast Guard, and second, the vessel owner must hold a valid commercial permit issued by the Hawaii Department of Land and Natural Resources, Division of Boating and Ocean Recreation. A commercial permit authorizes a vessel operator to conduct commercial operations at the harbor for which it is issued, and allows activities such as parasailing trips, snorkel or dive trips as well as charter fishing trips. There are a limited number of commercial permits issued for moored vessels at each harbor, in general 10% of slips are designated as commercial slips (for use by vessels with commercial permits). Due to the multiple uses of commercial permits they do not provide an accurate count of moored charter fishing vessels in Hawaii.

Charter fishing (and all other) vessels must be either registered by the state of Hawaii or, if over approximately 5 net tons, documented by the Coast Guard. Those registered with the state of Hawaii receive vessel identification numbers with suffixes thought to represent the vessel's main activity. The determination of a vessel's main activity is left up to the operator. If they indicate that their vessel's main activity is commercial fishing they will receive a registration number ending in CF; if they indicate that their main activity is carrying commercial passengers they will receive a registration number ending in CP. Charter fishing vessel operators applying for Coast Guard documentation for their vessels will be categorized as receiving a Coastwise endorsement if they do not sell fish, and a Fishery endorsement if they sell at least one fish. Unfortunately, neither the state or federal system provide unique identification of charter fishing vessels as each group contains non-charter fishing vessels as well as charter fishing vessels.

The only identification of the charter boat operator as an individual takes place when (and if) they apply for a Commercial Marine License from Hawaii's Department of Land and Natural Resources, Division of Aquatic Resources (HDAR). Unlike many other states, Hawaii law allows the sales of fish caught during sportfishing charter boat trips provided that the seller (usually but not always the captain) possesses a Commercial Marine License (CML) which is available for a $25 annual fee. Based on the survey results presented here, the majority of charter fishing operators in Hawaii sell at least some portion of their catch. The specific question which is included on the CML application is:

"Charters? Yes/No"

As this is an application for a license to sell fish, it seems likely but is not obvious that it is fishing charters which are being referenced. According to Commercial Marine License applications, there were 265 license holders who answered in the affirmative as of December 1996. When aggregated by vessel, 253 fishermen were associated with 187 separate vessels, 12 license holders did not indicate a vessel name on their applications (and were deleted). Of the

187 vessels thus identified, 27 were listed as trailered vessels, leaving a statewide count of 160 moored charter fishing vessels. However, in the course of this project 199 vessels were identified as being moored, six passenger charter fishing vessels (see Section B for a breakdown of these by island). Identification came via survey interviews, observation and information from key respondents at major harbors.

II. Survey Methodology

Information for this project was collected from charter boat owners and operators through direct in-person surveys. Development of the survey instrument began in August, 1997 with a draft form which was reviewed and pretested by key respondents. Following revisions, the survey process then began at Kewalo Basin in Honolulu in September 1997. The survey was administered at six harbors on five islands over a 6 month period, with respondents being questioned about their operations over the previous 12 months. There was one interview done in June of 1998, it focused on 1997 operations. Charter vessel operators were either intercepted as they returned from fishing trips or approached at their slips while they were cleaning or working on their boats. All interviews were conducted by a single researcher and were generally conducted with the operator (captain) of the vessel, whether they owned the vessel or not. Figures 1-5 illustrate the locations of Hawaii's harbors, with survey sites indicated.

I began each interview by approaching the captain, introducing myself, explaining the purpose of the survey and asking if they would be willing to participate. Of the 64 captains and or vessel owners approached, 3 declined to participate, yielding a successful response rate of 98 percent. The survey process took 20-40 minutes and at the conclusion participants received a correspondence address for further comments or questions. Respondents were also offered summaries of recent catch statistics and other fishery related publications in order to provide them with useful information in return for their assistance.

III. Survey Instrument

Based on Walker's report (*Sociology of Hawaii Charter Boat Fishing*[1]) three types of charter fishing operations were anticipated.. First were those that were *owner operated* meaning that the vessel owner captained the majority of trips; second were those that had out of state or *absent owners* who hired local captains to run their business, and lastly were those which used hired captains but closely supervised them and the business (termed *active owners*). Due to the mix of owner operators and hired captains, as well as the difficulty of contacting and

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[1] Walker, J., *Sociology of Hawaii Charter Boat Fishing,* Pelagic Fisheries Research Program Report , University of Hawaii, Joint Institute for Marine and Atmospheric Research, Honolulu, Hawaii, 1996.

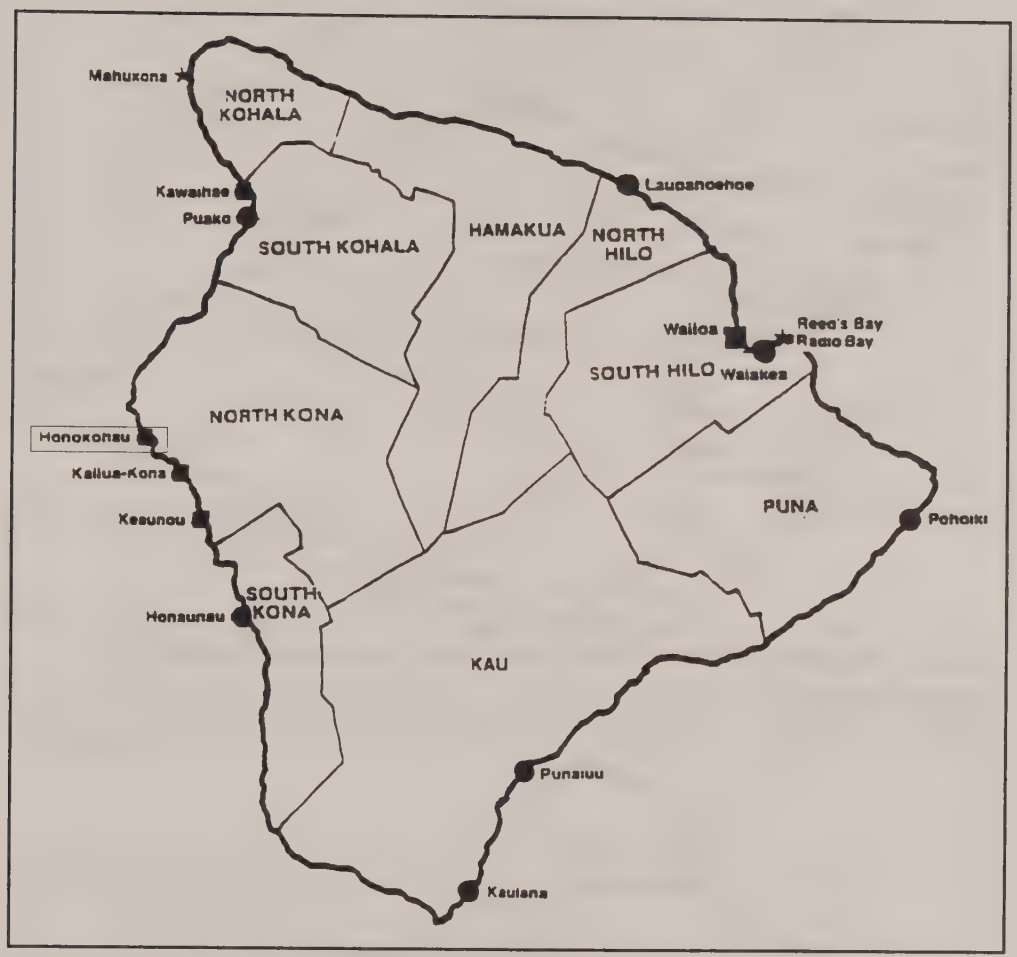

Figure 1. Map of the island of Hawaii, showing the location of Honokohau harbor.

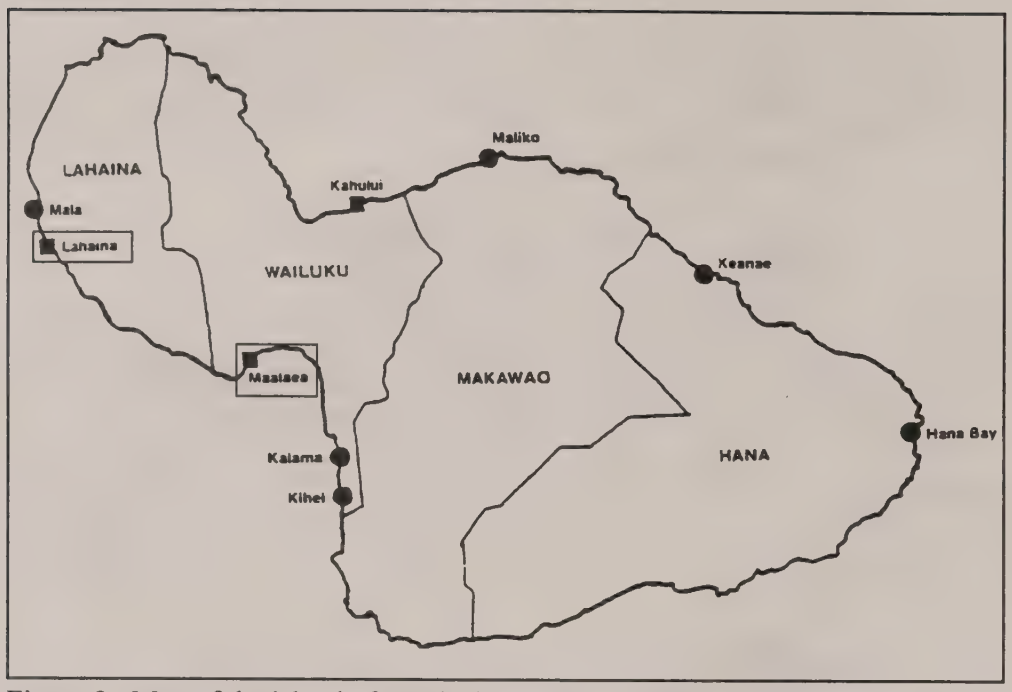

Figure 2. Map of the island of Maui, showing the locations of Lahaina and Maalaea harbors.

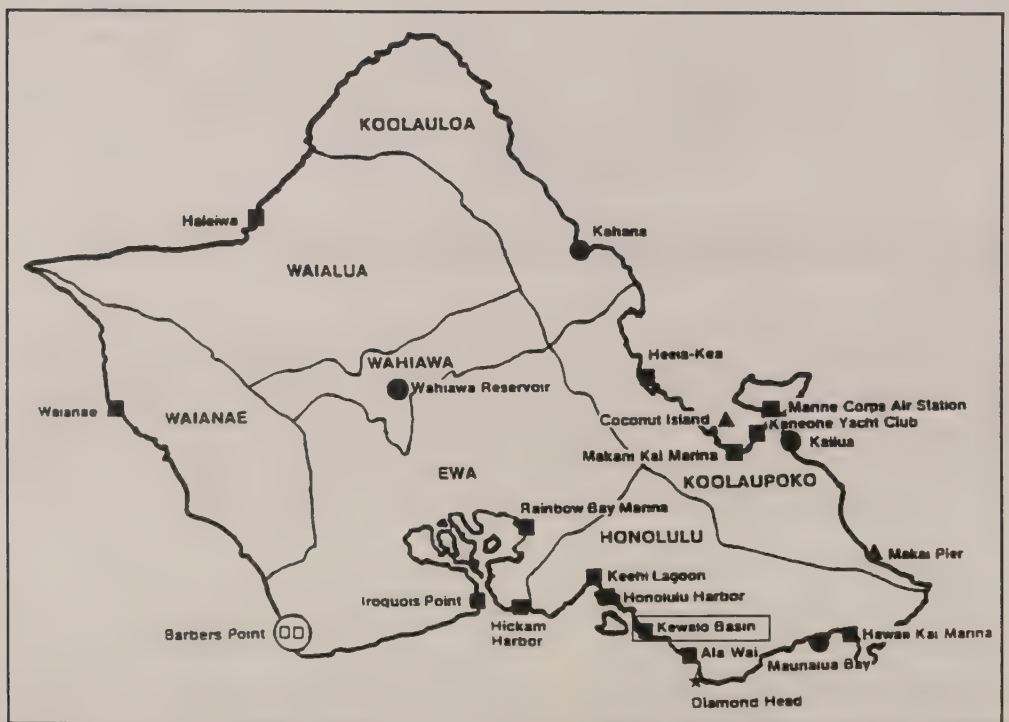

Figure 3. Map of the island of Oahu, showing the location of Kewalo harbor.

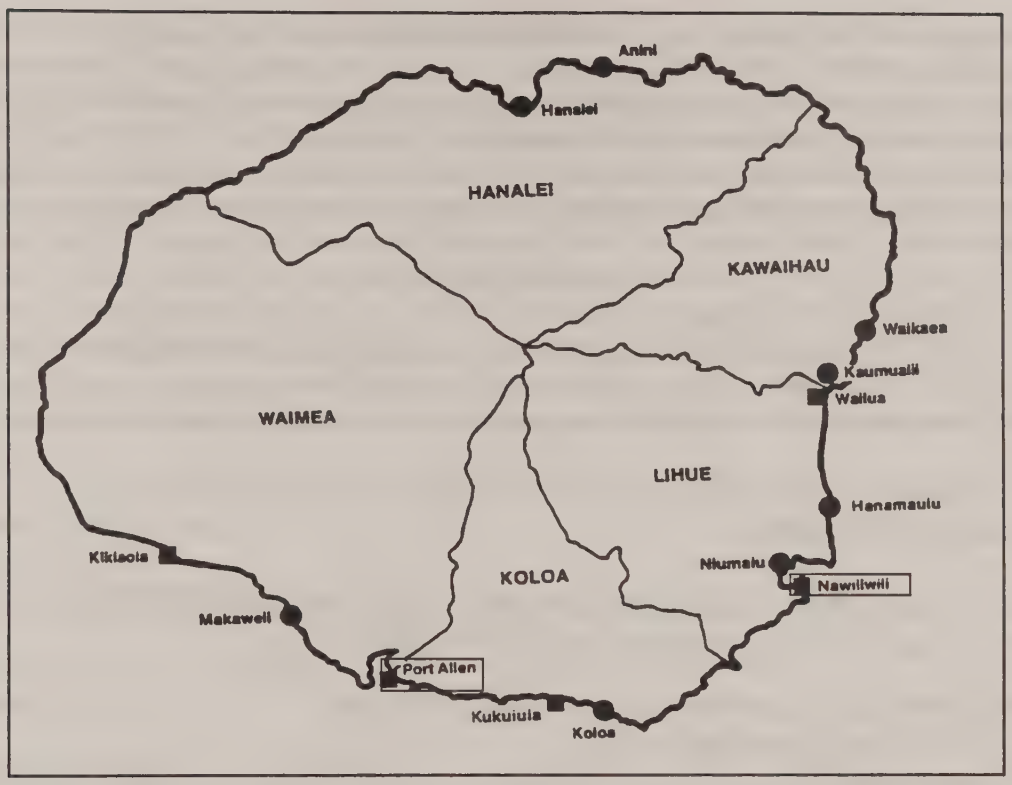

Figure 4. Map of the island of Kauai, showing the locations of Nawiliwili and Port Allen harbors.

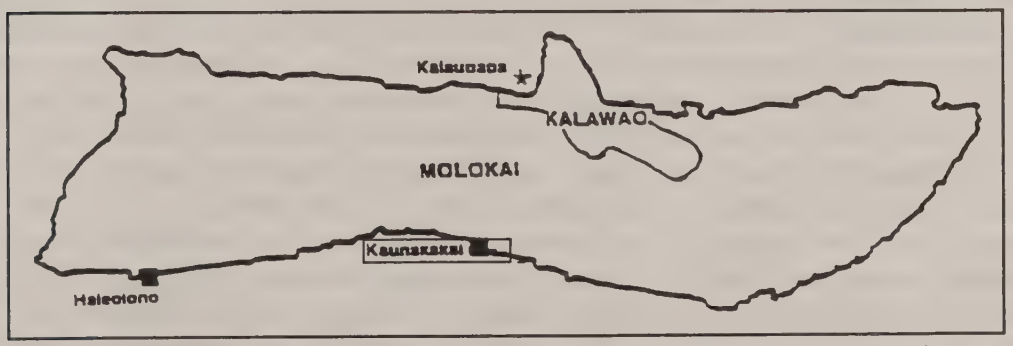

Figure 5. Map of the island of Molokai, showing the location of Kaunakakai harbor.

interviewing out-of-state owners, the survey form was constructed so that consistent information could be collected from vessel operators, whether they owned the vessel or not. There were five major areas within the survey, owners' motivations, vessel and operating characteristics, fixed and variable costs, catch and revenues, and respondents' demographics.

Vessels were stratified into three groups (owner operated, absent owner or active owner) based on owners' involvement as revealed by the respondents' answers to the questions:

1. *"Do you own this vessel?"*

2. *"How many of the past 12 months did the owner (you) spend in Hawaii?"*

and

3. *"How involved is the owner (are you) in the operation of the boat and/or business"*

Participants were also asked:

4. *"How would you describe the owner's (your) major motivation for owning a charter boat in Hawaii?"*

Responses to the last question were grouped into four categories:

* to work the business themselves
* to make income
* to have a boat (with a slip) available for fishing by the owner
* other, including *"I don't know"* and *"I want to get out"*

The most common response to the latter question by owner operators was that they love to fish and thus that they own their vessel in order to work the business themselves. Respondents on vessels owned by active owners largely believed that the owner's motivation was a combination of wanting to work the business themselves and also having a boat available when they wanted to go fishing. For vessels owned by absent or out-of-state residents, survey participants (the vessel's captain) generally answered that they felt that the owner's motivation was to have a boat available for themselves when they wished to use it. This type of operation exists due to a shortage of slips in Hawaii and, at some harbors a long (10 years) waiting list for any that become available. Each harbor has fixed numbers of moored vessel recreational and commercial permits which cannot be sold or transferred to a new owner. However, commercial vessel operators have discovered that they can incorporate their company and then, under certain circumstances, sell the corporation which includes the vessel and the slip. Because the ownership of the slip stays in the same company name, it apparently does not count as a sale or transfer and the new user does not have to go through the long waiting process. Use of a commercial slip is contingent on the operation being a commercial one. In order to be seen as a commercial operation for this purpose, typical six passenger charter boat operations must report a gross income of at least $15,000 per year. That is what leads many absent owners to maintain active charter boat operations largely in order to have a (moored) boat available for themselves.

IV. Sample Frame

Information on 63 vessels was collected, however a single trailered vessel was dropped as its operations were not directly comparable with those of moored vessels. Thus our database consists of 62 vessels. Data was collected via interviews with 60 individuals (2 owners ran 3 vessels each, one ran 2 vessels, and for 3 active owner vessels, both the captain and the owner were surveyed). A relatively recent development in Hawaii is the use of small trailered vessels for charter fishing. Although legal, this practice has made the owners of moored vessels unhappy as trailered vessels generally have lower costs and thus can charge lower prices to patrons. These vessels are mostly favored only by patrons on tight budgets as they are smaller and have less amenities. This is a relatively small group and they were not sought out due to the difficulty in locating them as well as the fact that their operations are not easily compared to those of moored vessels.

The types of vessel owners for which surveys were completed were distributed as indicated in Tables 2 and 3 .

Table 2. Number of vessels by owner type

	Absent owner	**Active owner**	**Owner operated**	**Total**
Number of vessels	13	22	27	62
Percent of sample	21%	36%	44%	100%

Table 3. Number of vessels by port and owner type

Island	**Port**	**Absent owner**	**Active owner**	**Owner operated**	**Total**
Hawaii	Honokohau	11	7	10	28
Oahu	Kewalo Basin	1	4	8	13
Maui	Lahaina	0	8	3	11
	Maalaea	1	2	1	4
Kauai	Nawiliwili	0	1	3	4
	Port Allen	0	0	1	1
Molokai	Kaunakakai	0	0	1	1
Total		13	22	27	62

Vessels were also stratified into size classes based on overall vessel length as follows:

Small = less than 35'
Medium = 35' to less than 45'
Large = 45' or larger

These size classes were chosen to reflect at sea limitations as well as expected variations in costs and earnings. The number of vessels in each size class is presented in Tables 4 and 5.

Table 4. Number of vessels by size class

Size class	Number of vessels	Percent of sample
Small	13	21%
Medium	36	61%
Large	11	18%
Total	62	100%

Table 5. Number of vessels by port and size class

Island	Port	Small	Medium	Large	Total
Hawaii	Honokohau	4	19	5	28
Oahu	Kewalo Basin	0	7	6	13
Maui	Lahaina	4	7	0	11
	Maalaea	2	2	0	4
Kauai	Nawiliwili	2	2	0	4
	Port Allen	0	1	0	1
Molokai	Kaunakakai	1	0	0	1
Total		13	37	11	62

The ethnicity of respondents is presented in Table 6 and summarizes their answers to the question "How would you describe your ethnicity?". In Hawaii this question is normally taken to refer to one's ancestry. There were a total of 60 respondents but in cases where both the owner and the captain were interviewed, only the demographics of the owner were collected (see p. 4). Thus we have demographic information on 57 individuals.

Table 6. Ethnicity of respondents

Ethnicity of respondent	Number of respondents	Percent of sample
White/Caucasian	33	57.9%
Part-Hawaiian	6	10.5%
American	5	8.8%
European	5	8.8%
Portuguese	4	7.0%
Japanese	2	3.5%
Greek	2	3.5%
Other/Missing	2	1.8%
Total	57	100.0%

V. Results

Outline of Tables

Tables A1 through A14 present means (mean) and standard deviations (std) of survey results for all vessels. Subsequent sections present analogous information stratified by vessel port, owner type (absent, active or operator) and vessel size (length). In all cases, missing information is indicated by a . (dot).

Table A1 presents average vessel activity (number and types of trips) with the number of respondents in each group (n) indicated in the first row. Trips on which paying customers were taken are referred to as "charter trips". The category "owner chartered trips" was included to investigate reports that some absent owners would charter their own boat for one $15,000 trip each year in order to circumvent the intent of the law requiring their slips to be utilized by commercial activities. There was no evidence of this, although owners did occasionally pay trip and labor costs for their friends or family to go out fishing. "Exclusive trips" are those for which one patron or group of patrons chartered the entire boat (with captain and crew) for their exclusive use; "shared trips" are ones on which several patrons or small groups of patrons shared the vessel for the trip. The maximum capacity of surveyed vessels was 6 passengers, some would take 4 on a shared basis but most wouldn't go with less than 6. Full day trips generally last 8 hours, three quarter day trips last 6 hours and half day trips last 4 hours. Vessels may also have been chartered by patrons to participate in fishing tournaments. Owners and/or captains sometimes used the vessels for participating in tournaments, as well as for commercial and

recreational fishing and non-fishing trips. Many vessels occasionally provided non-fishing charter trips for such activities as funerals, making commercials, aiding in fishery research, whale watching or escorting racing canoes. Totals listed in this table are the averages of responses from survey participants and because not all respondents answered all questions, these totals may not equal the sum of their respective components as presented here.

Table A2 portrays mean vessel characteristics, as well as respondents' investments in their fishing operations. Additional electronics, vessel upgrades and major fishing gear represent amounts paid in addition to the purchase price of the vessel, which often came with some electronics and fishing gear. Vessel upgrades typically consist of improvements such as adding towers, upgrading fishing chairs or adding fish boxes. Major fishing gear includes larger items as rods and reels. It does not include expenditures on lines, lures, leads, hooks or other frequently replaced tackle. The cost to obtain slips reflects amounts paid (when enumerated by the respondent) for the slip at the time of the transfer of the corporation to the present owner. For respondents who got their slip through the waiting list, the cost to obtain their slip is zero. As with all data provided here (unless otherwise indicated) these are unconditional averages of costs encountered over the previous 12 months, (i.e. included in their calculation are those fishermen who reported no expenditures on a given item.) Slip improvements consist of such things as adding or replacing bumpers, storage boxes, steps, seating or signs. Investments in booths apply only to Kewalo and Lahaina harbors, other harbors do not allow booths. These booths contain one-person sales operations and are built in the front of a boat's slip for the purpose of selling trips to passersby. Not every boat at Kewalo and Lahaina had a booth; mean booth costs are calculated based only on those vessels which had booths and represent the total investment to date in building or improving the booth. Other investment generally consists of freezers and insulated fish bags, as well as home computers.

Table A3 presents costs assumed to be fixed over a year of fishing. The most common forms of advertising were Yellow Pages listings and brochures or rack cards which are one piece advertisements typically featuring a picture of the vessel, current prices and contact information. These are normally placed in brochure racks at area hotels and airports. Drydock costs are the annualized cost of going to drydock calculated as the cost of the most recent trip to drydock divided by the typical years between going to drydock. Slip costs include slip fees and additional fees paid for utilities. Also included are additional amounts charged as rent of space for such things as dockside storage boxes, signs advertising boat names and sales booths. Fishing tackle consists of expenditures on line, lures, leaders, hooks and similar items. Office expense typically consists of amounts paid to accountants and tax preparers and phone (including cell phone) charges. Most operations lacked an actual office. Auto expense are those automobile expenses respondents either charged to their businesses (if employees) or deducted on their tax returns (if owners). Miscellaneous expenses include dues paid to professional organizations and magazine subscriptions.

Trip costs (full, three quarter and half day) are presented in Table A4. Not every vessel took every type of trip, these are conditional averages in that only data from vessels which took each type of trip are included. Food costs are generally for the captain and crew, only 2 vessels provided lunch or other food for patrons.

Table A5 presents data on the average and maximum number of miles traveled on a full day charter fishing trip. Miles from shore refers to the shortest distance to the closest island while

miles from port represent the miles traveled from the vessel's home port.

Table A6 illustrates labor requirements and pay structures. Boat labor requirements are the average number of people needed to run the boat (captain and crew), shore labor requirements are the number of people needed on shore to run the business. Independent activity or hotel desks are not included here, nor or any captain or crew members who did the on shore business themselves via cell phones for no extra pay. Of vessel captains surveyed (and in a few cases, crew members), some were found to be vessel owners who did not pay themselves a specific salary but rather drew on the business profits as necessary. Others were paid by salary or a base salary plus a commission on every charter trip sold. The most common method for both captains and crew members to be paid was a flat amount for each trip taken (paid by the trip). Shore workers usually worked in the booths, although a few answered phone calls from their homes. Many were unpaid family members of the captain and/or owner. Of paid shore workers, the majority were paid a commission of every trip they sold.

Labor rates are presented in Table A7. For confidentiality reasons, average labor costs are enumerated only for those groups which consist of three or more observations. Per trip wages for both captains and crew members are per person for a full day fishing charter fishing trip. Costs for shore workers are based on only those operations which had shore workers and are presented as the average commission received for each trip sold, as a percent of the trip charge to the patron. The majority of all workers were paid as independent contractors, any taxes and benefits paid for employees are not included here.

Table A8 portrays mean charter fishing trip charges to patrons (before taxes) by vessels which took those trips (not all vessels took all types of trips, for example some did not do shared trips). Also listed are average commissions, as a percent of the trip charge to the patron, paid by the vessel owner to independent activity or hotel desks and the percent of all charter fishing trips booked through these outside desks. In general, desks charged patrons the same rates that they would pay if they booked the trip directly from with the vessel operator, but some respondents reported that desks they worked with would often charge higher (and sometimes lower) rates, with the charter operator paid the original amount. The remainder of trips were either booked at the booth or over the phone, or at the boat's slip for those which didn't have booths.

Table A9 presents information on gear types used, as well as fishing targets. All vessels trolled with artificial lures; many also used live and dead bait. This bait was commonly caught by the vessel operators rather than bought at a store. All vessels considered pelagic species including billfish (*Xiphias gladius, Makaira* and *Tetrapterus* spp.), tunas (*Thunnus* spp.), mahimahi (*Coryphaena* spp.) and ono (*Acanthocybium solandri*) to be their targets, a few would also take deep sea bottomfishing trips if patrons were interested. Some boats would also fish with very light tackle and spincast. Targets are responses to the question "How do you decide what to target?"

Frequency of responses to the question "Do you encourage catch and release?" are presented in Table A10, as well as the mean number of fish released per vessel in the previous 12 months. In most but not all cases these released fish were marlin. Some respondents also reported releasing spearfish and other species.

Table A11 displays total pounds caught and sold per vessel in the previous 12 months. Pelagic species consist of deep water migratory fish such as those above, non-pelagics are all others.

The disposition of unsold fish is listed in Table A12. Each vessel has its own policy concerning the disposition of charter caught fish. It was common for portions of some fish to be given to patrons, however retaining whole large fish to sell was a priority for many vessel operators. One allocation system is referred to as the "50-50-100 rule" and it states that charter patrons can have 50% of all fish weighing less than 100 pounds. This allows the patrons to take some fish but allows the vessel operator to sell the larger ones in whole condition. On other vessels, patrons are allowed to take as much fish as they want, still others allow 3-5 pounds per patron only. Several operators also gave fish to friends, charities and to activity desk workers.

Table A13 presents mean annual vessel gross revenues from charters as estimated by survey respondents. Also listed are gross revenues from fish sales and mount sales. Revenue from the sale of charter caught fish was always shared with the captain and crew, and usually another portion went to the vessel owner. Most typical was a 3 way split with captain, crew and owner each receiving 33%. Mount commissions (sales) were also typically shared by the captain, crew and vessel owner, with the captain generally receiving 50-60 percent, the crew 40-50 percent and the owner 0-10 percent of the commission. Mount commissions are paid by a mainland taxidermy company and were reported to be from 40% to 60% of the total mount cost, which was $200 to $800 depending on the size of the fish. The patron is in fact purchasing a fiberglass reproduction of the fish, it is very expensive to actually mount a real fish and the finished product is subject to deterioration over time. The charter captain will take a picture of the fish, as well as recording information on its weight and length to send to the taxidermist. When completed (about 6 weeks later) the taxidermist sends the reproduction to the patron's home. Tips were generally divided equally between captain and crew with only one vessel operator reporting that a portion of tips were allocated to the vessel owner. Typical tips ranged from $20 to $40 for full day trip, however participants reported that there were many trips for which they received no tips at all. The last row of Table A13 gives the percent of the owner's income from vessel net revenues (gross revenues less all costs) as estimated by the survey respondent, who may have been the owner himself or the vessel captain in the case of absent owners.

Table A14 gives demographics on survey respondents who may have been the vessel owner or a hired captain. In the case of absent owners, demographics are for the vessel's hired captain, for owner operators they are for the vessel's owner and for active owner vessels they are a mixed set depending on who was available to be surveyed.

Section A. Fleet results

Table A1 and Figure 6 illustrate that these vessels were used predominantly for charter fishing with an overall average of 84% of trips being charter fishing trips. Non-fishing charters were also relatively rare at all ports, perhaps because the price was generally the same as for a fishing charter and was relatively high for a whale watching or sightseeing trip. Non-charter uses of the vessels such as recreational or commercial fishing were also low. When asked why there were not more non-charter uses of boats, responses included:

"I fish for a living, I don't want to fish on my time off."

"Our insurance only covers us while we are on charters."

"My gear and boat are not suited for commercial fishing."

"We are chartered almost every day, there is no time for other activities."

The mean number of charter trips taken in the previous 12 months by operators surveyed was 166, with the majority being exclusive full day trips (Figures 7 and 8).

The mean vessel length overall was 39 feet (Table A2). Vessels were typically 10 years old and had been owned by the current owner for 8 years. Investment in vessels, gear and slips was substantial with an average purchase price of $132,800 and total additional investment of $56,914 (not including investment by a few respondents in trailers used to haul the boats out).

Drydock and maintenance were the highest fixed costs, followed by insurance and advertising costs (Table A3 and Figure 9). Total fixed costs averaged $39,100 per year. The mean cost for a full day charter fishing trip (Table A4 and Figure 10) was $100 with the major cost being fuel. Vessels typically fished 24.4 miles from their home port and 7.5 miles from shore.

Most operators reported using 1 captain and 1 crew member to run the vessel for a charter fishing trip, although several fished alone (Table A6). Some captains (owner operators) drew cash from the business profits as necessary, others paid themselves or were paid a salary. Overall the most common arrangement for both captains and crew was to be paid an agreed amount for each trip taken. Necessary shore work (answering phones and booking trips) was often done by the captain and crew. Among paid shore workers the typical arrangement was to be paid a commission of each trip booked.

Labor costs averaged $98 for a full day charter fishing trip for captains and $71 per person for crew members. Mean salaries paid to captains were $28,000 per year and the mean commission paid to shore workers was 13.75% of each trip sold.

Charter charges ranged from $585 for the entire group for a full day exclusive trip, to $100 per person for a half day shared trip (Table A8). On average respondents booked 36% of

their trips through independent activity or hotel desks, and paid a 18% commission on each of those trips.

Most vessel operators trolled using artificial lures, the majority also used live and/or dead bait. Targets were commonly chosen based on what was biting that day, although some operators gave a higher priority to what the patron wanted to go after. A minority of operators reported that marlin was their primary target. Most operators reported catching and releasing some fish during the previous 12 months. The majority were reluctant to let large, valuable fish go, especially if the fish appeared tired or weak. However there has been pressure from patrons to practice catch and release and captains were responsive to this.

Survey participants reported catching a mean of 9,300 pounds of fish while charter fishing in the previous year, as well as another 1,600 pounds while non-charter fishing. On average, 66% of the charter catch and 10% of the non-charter catch was sold (Table A11). The majority of unsold charter caught fish was given to charter patrons, with smaller amounts eaten by the captain and crew or given away to friends, charities or business associates (Table A12).

Gross charter revenues averaged $73,00 before costs, commissions or taxes. Revenue from the sale of charter caught fish was $9,500 of which 28% went to the vessel owner with the remainder (72%) divided between the captain and crew. Mean total revenue from mount commissions was $3,800 of which 12% went to the vessel owner. On average survey respondents estimated that 40% of the owner's income came from the vessel's operations.

Respondent demographics are presented in Table A14. Their mean age was 47 and their mean annual household income was $57,00.

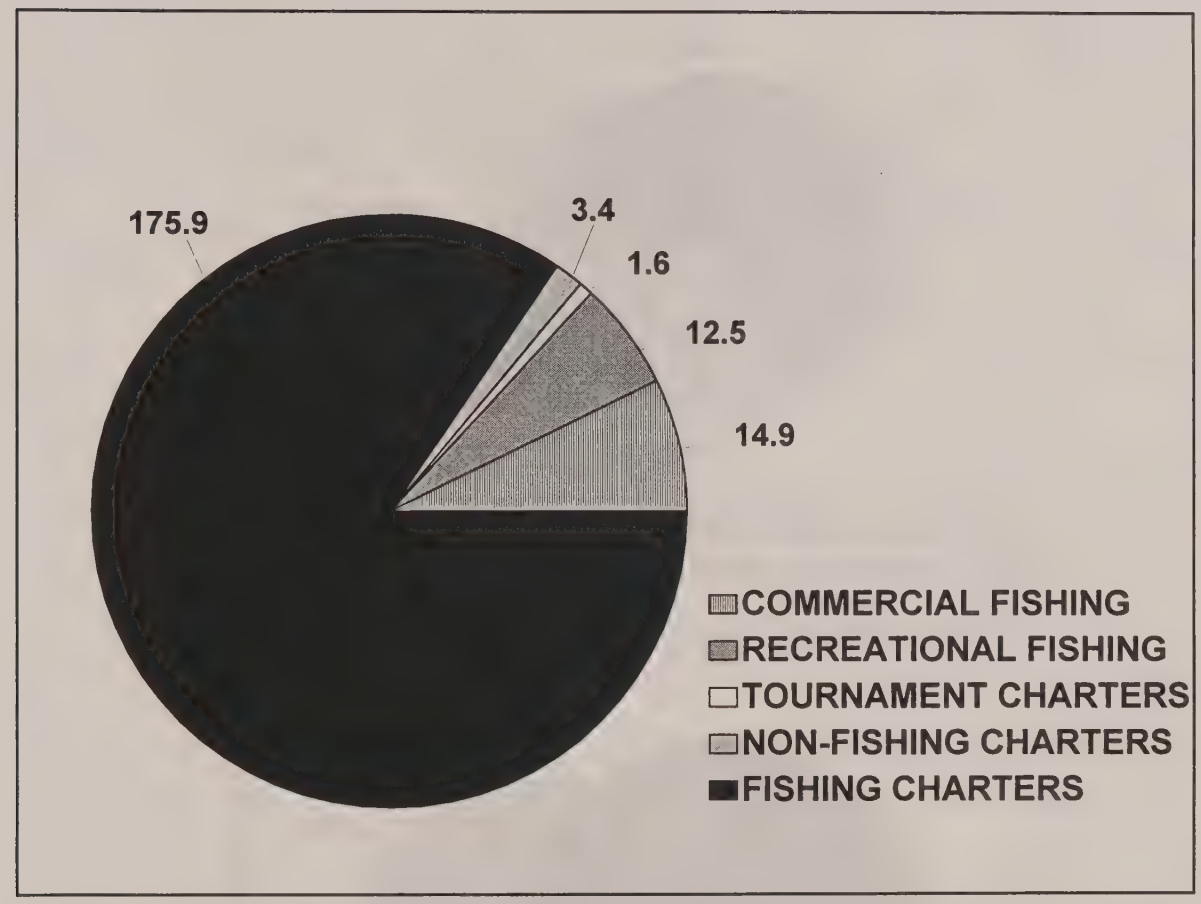

Figure 6. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by trip type (1996-1997).

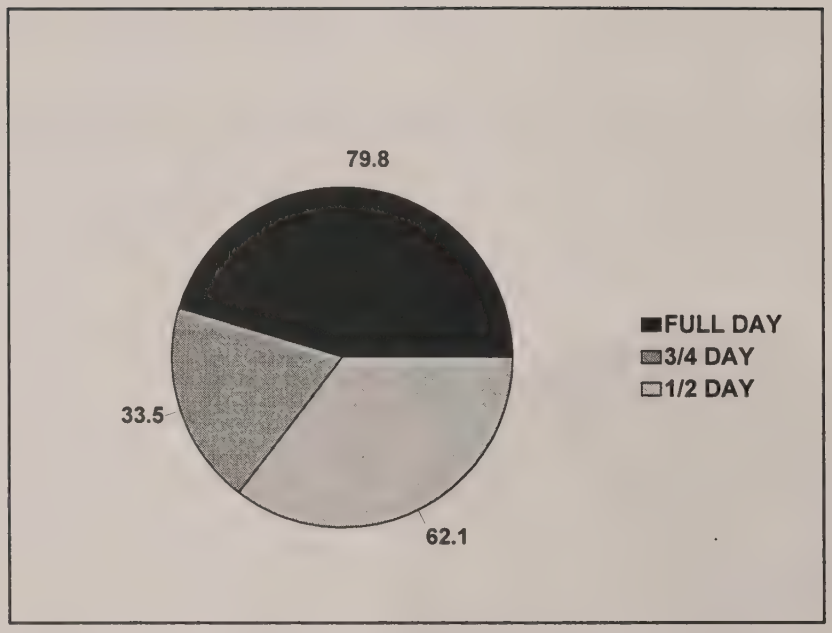

Figure 7. Average number of full, three quarter, and half day charter fishing trips per Hawaii charter fishing vessel in previous 12 months (1996-1997).

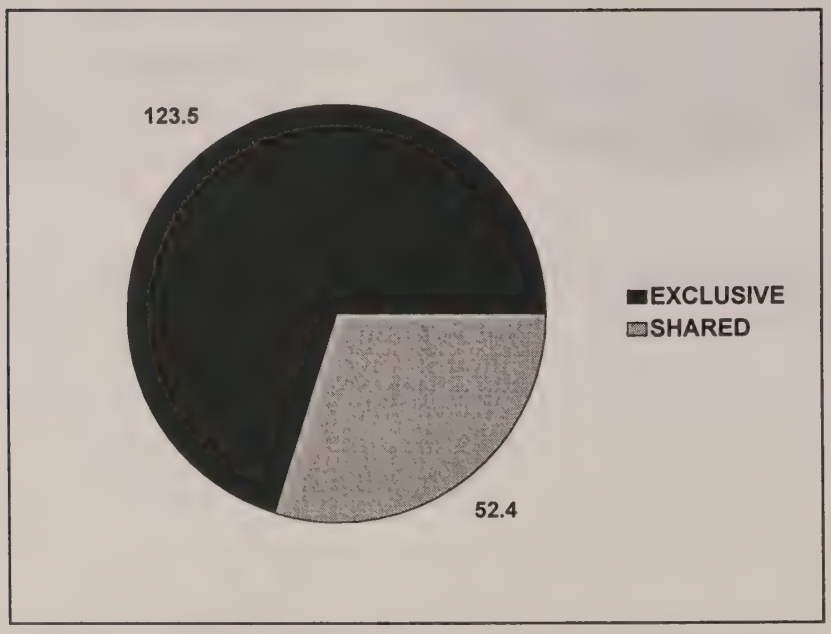

Figure 8. Average number of exclusive and shared charter fishing trips per Hawaii charter fishing vessel in previous 12 months (1996-1997).

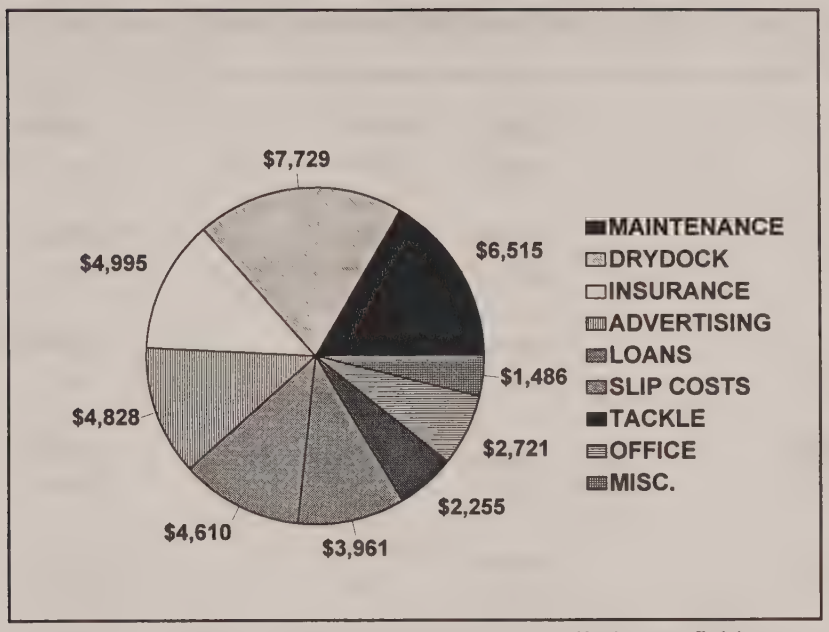

Figure 9. Average annual fixed costs per Hawaii charter fishing vessel, by cost category (1996-1997).

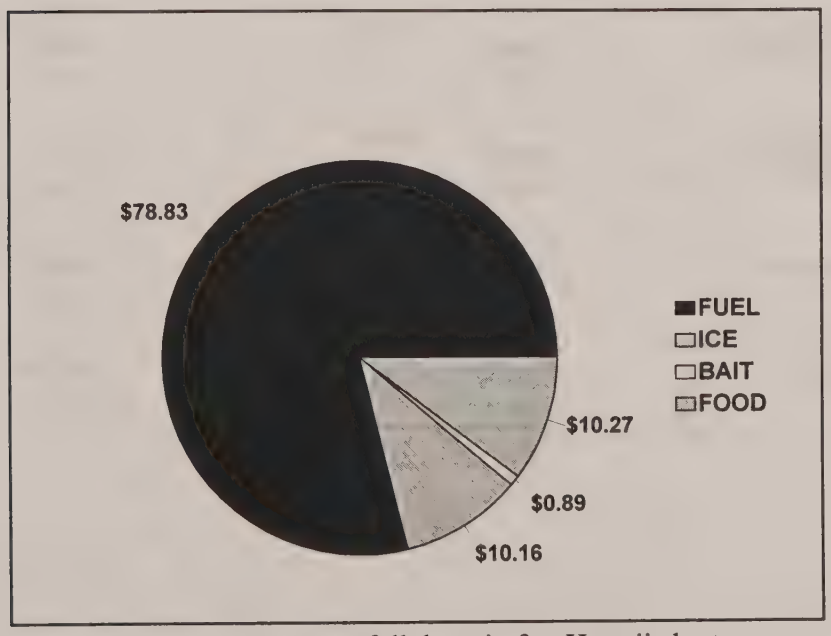

Figure 10. Average costs per full day trip for Hawaii charter fishing vessels, by cost category (1996-1997).

Table A1. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by trip type (1996-1997).

		(n=62)
Full day exclusive trips	**mean**	**58.24**
	std	44.21
Three quarter day exclusive trips	**mean**	**20.22**
	std	38.92
Half day exclusive trips	**mean**	**45.03**
	std	42.37
Full day shared trips	**mean**	**21.56**
	std	36.08
Three quarter day shared trips	**mean**	**13.29**
	std	25.79
Half day shared trips	**mean**	**17.50**
	std	35.86
Non-fishing charter trips	**mean**	**3.38**
	std	10.24
Tournament charter trips	**mean**	**1.61**
	std	2.56
Owner chartered trips	**mean**	**0.05**
	std	0.39
Total charter trips	**mean**	**166.48**
	std	97.35

Table A1. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by trip type (1996-1997) continued.

Recreational fishing trips by owner	**mean**	**11.38**
	std	19.79
Commercial fishing trips by owner	**mean**	**13.64**
	std	41.61
Non-fishing trips by owner	**mean**	**0.09**
	std	0.34
Tournaments by owner	**mean**	**0.49**
	std	1.28
Commercial fishing trips by captain	**mean**	**1.29**
	std	6.92
Recreational fishing trips by captain	**mean**	**0.62**
	std	2.36
Total non-charter trips	**mean**	**27.06**
	std	43.12
Total trips	**mean**	**192.65**
	std	102.33

Table A2. Average Hawaii charter fishing vessel characteristics (1996-1997).

Length (feet)	**mean**	**39**
	std	6
Year built	**mean**	**1977**
	std	9
Year purchased	**mean**	**1989**
	std	7
Purchase price	**mean**	**$132,821**
	std	118,268
Trailer cost	**mean**	**$7,000**
	std	1,000
Cost of additional electronics	**mean**	**$4,131**
	std	5,512
Cost of other vessel upgrades	**mean**	**$28,036**
	std	40,514
Cost of major fishing gear	**mean**	**$11,229**
	std	6,317
Cost to obtain slip	**mean**	**$10,706**
	std	23,908
Cost of slip improvements	**mean**	**$388**
	std	1,388
Investment in booth	**mean**	**$1,845**
	std	1,929
Other investment	**mean**	**$579**
	std	2153

Table A3. Average annual fixed costs per Hawaii charter fishing vessel (1996-1997).

Insurance	**mean**	**$4,995**
	std	2,906
Advertising	**mean**	**$4,828**
	std	8,266
Loan payments	**mean**	**$4,610**
	std	9,969
Maintenance and repairs	**mean**	**$6,515**
	std	6,539
Drydock cost	**mean**	**$7,729**
	std	11,046
Slip costs	**mean**	**$3,961**
	std	2,437
Fishing tackle	**mean**	**$2,255**
	std	1,649
Office expense	**mean**	**$2,721**
	std	2,659
Miscellaneous	**mean**	**$1,486**
	std	2,084

Table A4. Average costs per trip for Hawaii charter fishing vessels (1996-1997).

Full day fuel	**mean**	**$78.83**
	std	39.16
Full day ice	**mean**	**$10.16**
	std	5.30
Full day bait	**mean**	**$0.89**
	std	1.91
Full day food	**mean**	**$10.27**
	std	13.85
Three quarter day fuel	**mean**	**$60.54**
	std	29.09
Three quarter day ice	**mean**	**$10.89**
	std	4.49
Three quarter day bait	**mean**	**$1.27**
	std	2.99
Three quarter day food	**mean**	**$10.15**
	std	12.68
Half day fuel	**mean**	**$39.21**
	std	13.99
Half day ice	**mean**	**$7.30**
	std	3.78
Half day bait	**mean**	**$0.96**
	std	1.98
Half day food	**mean**	**$8.75**
	std	6.35

Table A5. Average fishing distances from shore and port (miles) for Hawaii charter fishing vessels (1996-1997).

Typical fishing distance from shore	**mean**	**7.52**
	std	5.72
Typical fishing distance from home port	**mean**	**24.39**
	std	10.65
Maximum fishing distance from shore	**mean**	**22.53**
	std	12.39

Table A6. Average labor requirements and pay structures for Hawaii charter fishing vessels, (1996-1997).

Boat labor requirements (# of workers)	**mean**	**1.95**
	std	0.28
Shore labor requirements (# of workers)	**mean**	**0.48**
	std	0.79
CAPTAIN:		
Unpaid (owners who keep profits)		26%
Paid by salary		25%
Paid base rate plus commission		5%
Paid commission only		2%
Paid by trip		42%
CREW:		
No crew		11%
Unpaid (owners who keep profits)		5%
Paid by salary		3%
Paid commission only		3%
Paid by trip		82%
SHORE WORKERS:		
None (done by captain/crew)		66%
Unpaid (relatives)		8%
Paid by hour		2%
Paid base rate plus commission		7%
Paid by commission only		14%
Paid by trip		3%

Table A7. Average labor rates for Hawaii charter industry workers, (1996-1997).

CAPTAIN:		
Captain wage for a full day charter trip	**mean**	**$97.77**
	std	12.73
Annual captains' salary paid	**mean**	**$28,027**
	std	6,305
CREW:		
Crew wage for a full day charter trip	**mean**	**$70.72**
	std	10.41
SHORE LABOR:		
Percentage commission paid per trip sold	**mean**	**13.75%**
	std	2.31

Table A8. Average charter charges and commissions paid for Hawaii charter fishing vessels, (1996-1997).

Full day exclusive charge	**mean**	**$585.93**
	std	123.02
Three quarter day exclusive charge	**mean**	**$541.69**
	std	87.8
Half day exclusive charge	**mean**	**$401.00**
	std	87.38
Full day shared charge	**mean**	**$128.56**
	std	28.94
Three quarter day shared charge	**mean**	**$120.45**
	std	32.56
Half day shared charge	**mean**	**$100.79**
	std	42.49
Percent commission charged by desks	**mean**	**18.15%**
	std	2.25
Percent of trips booked via desks	**mean**	**35.96%**
	std	31.91

Table A9. Frequency of gear types and targets for Hawaii charter fishing vessels (1996-1997).

GEAR USED:	
Troll (w/lures only)	18%
Troll & live/dead bait	71%
Troll & bottomfish	2%
Troll & misc.	9%
Green stick?	8%
TARGETS:	
Whatever is biting	50%
Whatever patron wants	33%
Combination	12%
Marlin	5%

Table A10. Conditions for catch and release by Hawaii charter fishing vessels, (1996-1997).

CATCH & RELEASE?		
No		4%
Yes, always		15%
Only if patron insists		49%
If fish is not high valued		13%
If fish is in good shape		6%
If fish is not high valued and is in good shape		8%
Only in tournaments		6%
Number of fish released in previous 12 months	**mean**	**13.52**
	std	16.66

Table A11. Average annual pounds of fish caught and sold per Hawaii charter fishing vessel in previous 12 months, (1996-1997).

Total pounds caught	**mean**	**9,272**
	std	8,683
Charter	**mean**	**7,629**
pounds caught	std	7,522
Non-charter	**mean**	**1,643**
pounds caught	std	4,245
Total pounds sold	**mean**	**6,481**
	std	6,682
Charter	**mean**	**5,006**
pounds sold	std	5,395
Non-charter	**mean**	**157**
pounds sold	std	566

Table A12. Average annual distribution of kept fish per Hawaii charter fishing vessel in previous 12 months (1996-1997).

Total pounds kept	**mean**	**3,374**
	std	3,585
Non-charter pounds kept	**mean**	**702**
	std	2,350
Charter pounds kept	**mean**	**2,672**
	std	2,729
Pounds given to patrons	**mean**	**1,795**
	std	1,949
Pounds given to owner, capt., & crew to eat	**mean**	**562**
	std	893
Pounds given to charity, friends, other	**mean**	**267**
	std	772

Table A13. Average annual gross revenues per Hawaii charter fishing vessel in previous 12 months, (1996-1997).

Charter revenue	**mean**	**$73,195**
	std	42,514
Non-charter fish sales	**mean**	**$1,517**
	std	4,909
Charter fish sales	**mean**	**$9,481**
	std	9,328
Percent of charter fish sales to owner	**mean**	**28.45%**
	std	15.19
Mount sales	**mean**	**$3,838**
	std	7,457
Percent of mount sales to owner	**mean**	**11.75%**
	std	16.74
Percent of owner's income from vessel	**mean**	**39.89%**
	std	47.66

Table A14. Hawaii charter fishing vessel survey respondent demographics (1996-1997).

Age	**mean**	**46.97**
	std	8.02
Total household income	**mean**	**$57,292**
	std	32,354

Section B. Results by vessel port

Hawaii has two types of public small boat harbors, those which are designated for recreational activities only and those which allow commercial uses. Commercial activities include all types of vessel charters, both fishing and non-fishing (e.g. parasail and dive boats). Commercial fishing boats are permitted to moor at recreational facilities but are not allowed to sell fish there. Public harbors are under the jurisdiction of either the Hawaii Department of Transportation (DOT) or the Hawaii Department of Land and Natural Resources, Division of Boating and Ocean Recreation (DBOR). In general, purely commercial harbors are managed by DOT, purely recreational harbors are managed by DBOR and harbors with mixed uses are run by both agencies together. There are also 12 privately owned harbors, and 5 federally owned small boat harbors where access is restricted to military personnel and their dependents. Table 7 presents the number of moored, six passenger charter fishing boats believed to have been active on each island in 1996-1997.

Data summaries by port appear in Tables B1 through B14. The 5 vessels surveyed on Kauai are combined into one port (Kauai) as there was only one observation from Port Allen harbor and for confidentiality reasons this observation cannot be presented separately. Similarly, the single vessel from Molokai does not appear in this section, however it is included in the next two sections (analyses by owner type and by vessel size) . Figures 11-13 (and Table B1) illustrate the numbers and types of trips taken over the previous 12 months and reveal that Lahaina vessels took the most charter trips, Honokohau the least. Charters for tournaments were most common at Honokohau, non-existent at Maalaea. Recreational fishing was most prevalent at Maalaea followed by Honokohau, possibly due to the higher percentage of absent owners at those harbors. Commercial fishing was highest for Kauai based vessels, zero for Lahaina and Maalaea vessels.

When charter fishing trips are broken down by type (exclusive vs. shared) it is clear that vessels surveyed at Lahaina, Maalaea and Kauai took far more shared trips than did those at Honokohau or Kewalo. This is likely due in part to the fact that the lack of booths at Honokohau made coordinating shared trips difficult, while the small number of active vessels on Kauai enhanced communication and reduced competition. The process of putting together a shared trip usually took the form of vessel operators calling each other either to find another boat to accommodate a small number of patrons or to find other small groups to put together onto their boat. At harbors where competition for patrons is strong (Honokohau and Kewalo), operators seemed reluctant to work with each other to coordinate shared trips.

Vessel sizes varied by harbor with Kauai vessels being slightly smaller and Kewalo vessels being decidedly larger. In general most vessels were 15-25 years old, turnover in ownership was higher at Honokohau and on Kauai, lower at Maalaea. Honokohau and Maalaea vessels had higher purchase prices on average, while Kewalo boats had the highest levels of additional investments. Honokohau respondents were the only group to enumerate positive amounts paid to obtain slips, Kewalo, Maalaea and Kauai based operators reported zero costs (all were obtained from the wait list), no Lahaina survey participants answered this question. Maalaea vessel operators made the highest investments in improving their slips, largely to protect their vessels from the strong surge which comes into that harbor.

Table 7. Distribution of charter fishing vessels by island, 1996-1997.[1]

Harbor	Jurisdiction	Number of moored six passenger charter fishing vessels, 1996-1997
Oahu:		
Kewalo	DOT	19
Other Oahu	n/a	11
Maui:		
Lahaina	DBOR	18
Maalaea	DBOR	6
Other Maui	n/a	2
Hawaii:		
Honokohau	DBOR	124
Other Hawaii	n/a	6
Kauai:		
Nawiliwili	DOT/DBOR	5
Port Allen	DOT/DBOR	2
Other Kauai	n/a	3
Molokai:		
Kaunakakai	DOT/DBOR	1
Other Molokai	n/a	1
Lanai:		
Manele Bay	DBOR	1
Other Lanai	n/a	0
TOTAL:	n/a	199

Fixed costs (Figure 14 and Table B3) were highest at Kewalo and Lahaina. Advertising was a relatively large cost for the Kewalo vessels while the cost of drydock dominated Lahaina based boats. Drydock costs were also high for Maalaea vessels, perhaps because there is no large vessel drydock facility on Maui. These vessels typically haul out using a giant trailer and rack available at Maalaea and then the captain and crew do most of the work themselves with local

[1] DOT refers to the Hawaii Department of Transportation, DBOR is the Hawaii Department of Land and Natural Resources, Division of Boating and Ocean Recreation.

independent contractors brought in if necessary to do specialized work. The lack of a well equipped shipyard may extend the time and expense of going to drydock for these vessels. As an alternative some will go to Honokohau where such a facility exists but this was not common. Slip costs were highest at Kewalo which is designated a commercial harbor (no non-commercial vessels allowed) and is subject to a different and higher rate schedule than are the others.

Trip costs were highest for Kauai based vessels lowest for Kewalo boats. Kauai vessels had higher mean food costs due to the practice of one vessel there of providing a full lunch to charter patrons. Fuel costs dominated the Maui vessels. Table B5 illustrates that the typical fishing distance from port was more than 30 miles for Maui based boats but less than 20 miles for Kauai vessels. This is at least partly due to the location of fish aggregation devices (FADS) which are popular fishing areas. These FADS were important to many charter boat operators as a likely spot to catch fish and the fact that some are missing and haven't been replaced was a concern.

In general vessels required 2 workers to take a trip (captain and 1 crew) although there were a few captains who fished alone and one boat on Kauai which used a captain plus 2 additional crew members (Table B6). Shore labor requirements were highest at Kewalo and Lahaina due to the presence of booths there, lowest at Maalaea where there was one independent desk that handled all the harbor's charter vessels. Most captains and crew members were paid a flat amount per trip. Many owner operators did not pay themselves a specified amount while others allocated themselves a salary. Some hired captains were also paid by salary, others were paid a base salary plus a commission of every trip taken. For paid shore workers, the most common pay structure was to be paid a commission on every trip they sold.

Table B7 illustrates that the average amount paid to captains for a full day trip ranged from a low of $80 at Maalaea to a high of $103 at Honokohau. However crew pay was lowest at Kewalo ($61 for a full day trip) and highest on Kauai ($90). Among captains who were paid by salary, annual amounts went from a low of $21,000 at Lahaina to a high of $29,700 at Honokohau.

Charter charges (Table B8) showed substantial variation with relatively low rates charged by Honokohau vessels (where business was slowest and thus competition highest), followed by Kewalo which was the second slowest harbor. Outside desks were used to book at least some trips from all ports. Commissions for these services were highest for Honokohau and Kewalo vessels, the use of these desks was most prevalent at Maalaea, least common at Honokohau .

Gear types and target strategies also varied by harbor (Table B9). Live and dead baiting is especially important for Honokohau and Lahaina based boats while Kewalo and Maalaea vessels appear split between trolling exclusively with lures and live/dead baiting. Lahaina and Kauai based vessels also did some deep sea bottomfishing. Green sticks were used by a minority of vessels. Definitions of a "successful" trip seem to vary with some operators focusing on high catch rates by targeting whatever is biting that day and others placing a greater emphasis on pleasing the patron by pursuing their preferred species. A few operators at Honokohau and Kewalo stated that marlin was their primary target at all times (Table B9).

Catch and release was practiced by at least some boats at every harbor. The most common reason for releasing fish was because the patron insisted. Some captains stated that they questioned the survival of fish released after a long fight with relatively inexperienced anglers,

others emphasized the sales value of landed fish. On average, Honokohau vessels released the greatest number of fish, Kauai boats the least.

Mean pounds of fish caught per vessel over the previous 12 months are presented in Table B11. Overall, Maalaea vessels had the lowest catch, Kauai the highest. When only the catch from charter fishing is considered, vessels from Lahaina had the greatest annual catch. This does not mean that they necessarily caught more per trip as they also took the most trips of any group. Operators of Honokohau based vessel sold the highest percent of their charter catch (79%) followed by Kewalo (67%), Lahaina (59%) and Kauai (51%). Maalaea based boats sold an average of only 43% of their charter catch.

The disposition of kept fish appears in Table B12. Of charter fishing pounds not sold (kept), at all harbors the largest portion went to charter patrons. This proportion (as a percent of total charter pounds not sold) varied from 52% for Honokohau based vessels to 77% for Maalaea boats. When calculated as a percent of total charter pounds caught, Maalaea based vessels gave the highest percent (47%) to patrons and Honokohau the lowest (10%). Again, the competition and lack of patrons at Honokohau harbor appears to have led to various strategies by vessel operators to maximize revenue in the face of hard times.

Table B13 presents information on mean gross revenues (revenue before subtracting any expenses) per vessel. The bulk of revenues for all vessels came from charter revenues, with additional revenue coming from fish sales, and mount commissions. Not surprisingly (due to the fact that they have higher charter rates and took more trips), respondents from Lahaina reported the highest gross revenues and those from Honokohau (low rates, few trips) the lowest. Income from charter fish sales was not inconsequential, ranging from $17,700 for Lahaina based boats to $3,700 for Maalaea vessels. Mount commissions were most important to Lahaina boats, with an annual gross revenue of $14,500. When respondents were asked to estimate the percent of the owner's personal income derived from charter profits including their share of fish sales and mount commissions, mean responses ranged from a low of 20% for Honokohau based vessels to a high of 76% for Kauai boats. This likely reflects the higher percentage of absent owners at Honokohau as compared to other harbors (Table 3).

Respondent demographics (Table B14) reveal that the average age of charter vessel operators was between 46 and 50 years. Mean annual household incomes of these vessel operators (who may be vessel owners or hired captains) varied from a low of $39,800 at Lahaina to a high of $66,500 on Kauai.

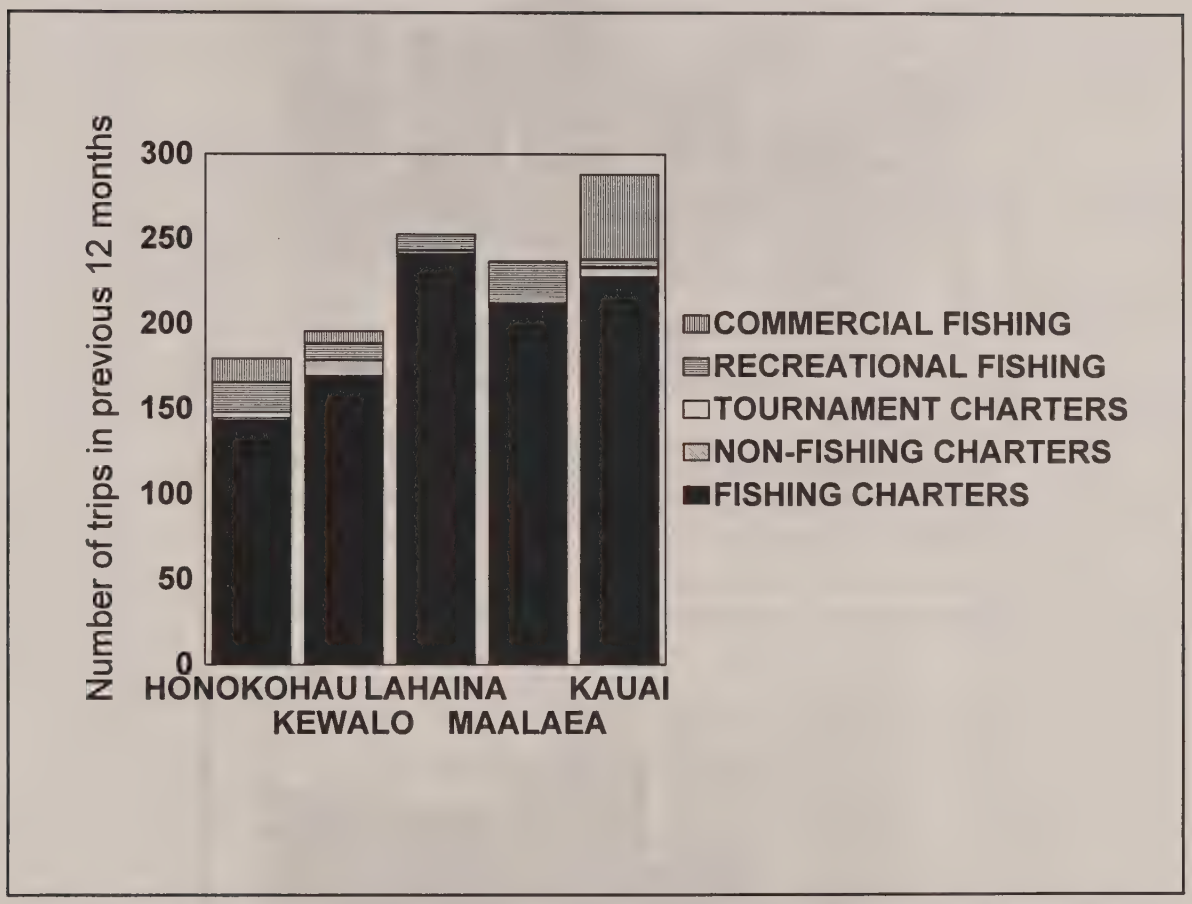

Figure 11. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by vessel port and trip type (1996-1997).

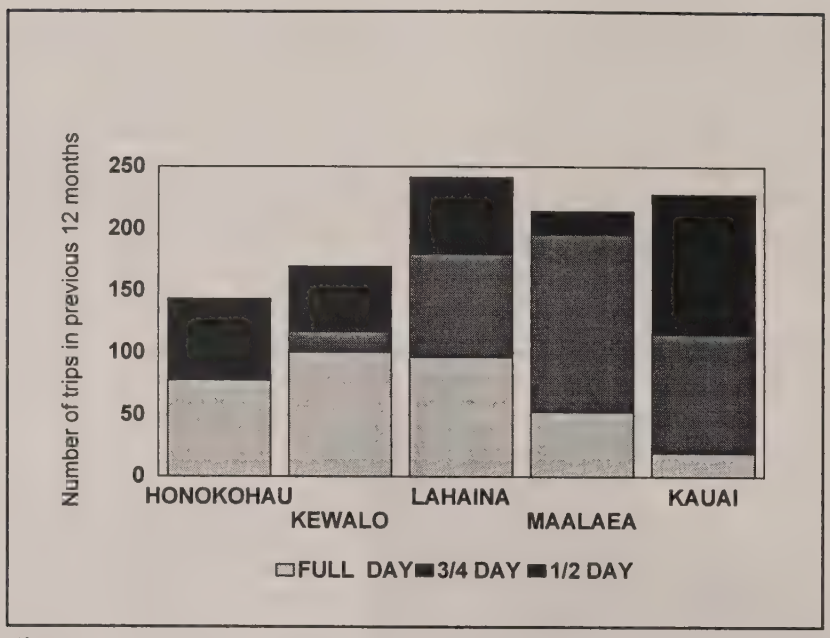

Figure 12. Average number of full, three quarter and half day charter fishing trips per Hawaii charter fishing vessel in previous 12 months, by vessel port (1996-1997).

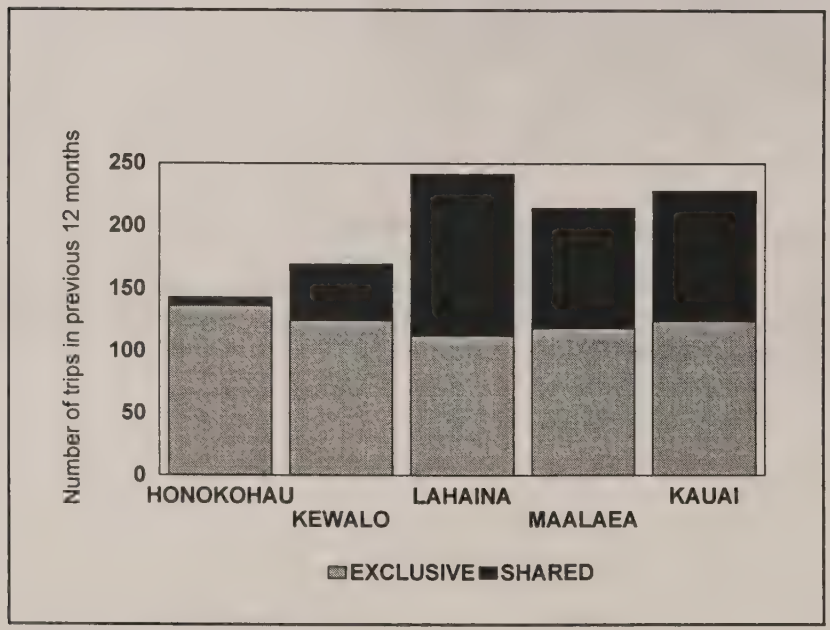

Figure 13. Average number of exclusive and shared charter fishing trips per Hawaii charter fishing vessel in previous 12 months, by vessel port (1996-1997).

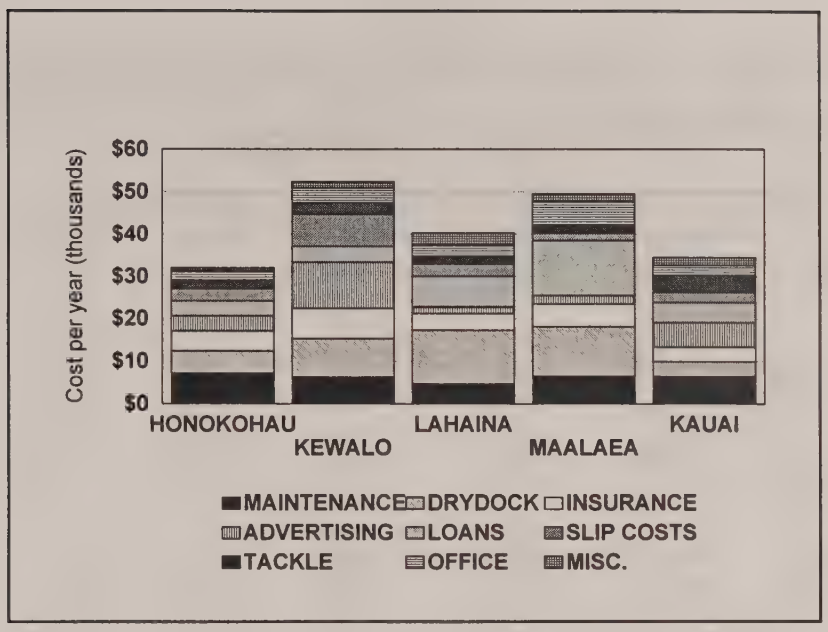

Figure 14. Average annual fixed costs per Hawaii charter fishing vessel, by vessel port and cost category (1996-1997).

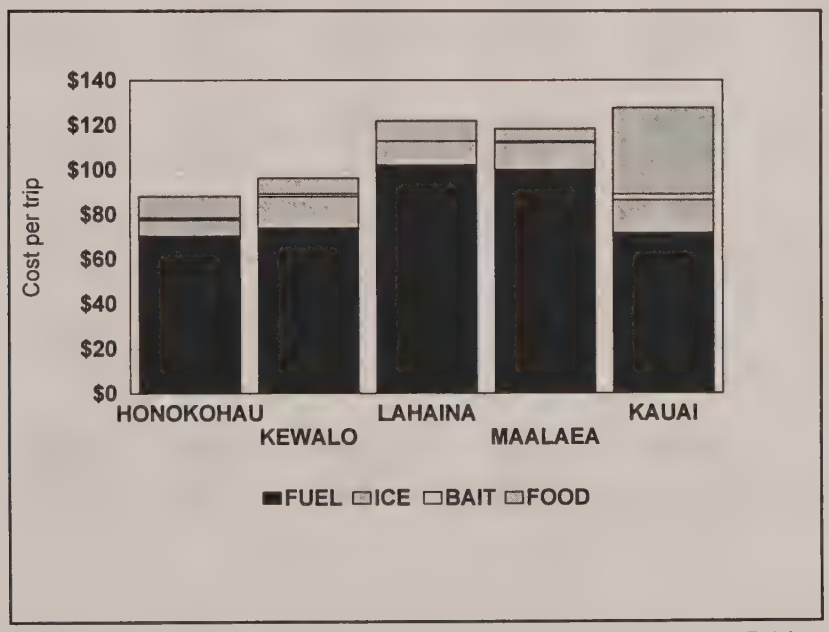

Figure 15. Average costs per full day trip for Hawaii charter fishing vessels, by vessel port and cost category (1996-1997).

Table B1. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by vessel port and trip type (1996-1997).

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Full day exclusive trips	**mean**	**74.58**	**63.76**	**47.6**	**31.33**	**8.70**
	std	50.63	31.97	37.16	14.87	8.26
Three quarter day exclusive trips	**mean**	**0.94**	**14.98**	**40.23**	**78.97**	**69.10**
	std	4.89	20.26	40.74	62.05	88.11
Half day exclusive trips	**mean**	**60.8**	**45.68**	**24.15**	**7.67**	**46.14**
	std	47.64	41.53	18.01	13.28	46.34
Full day shared trips	**mean**	**2.98**	**36.36**	**48.76**	**21.2**	**10.60**
	std	9.92	54.37	34.59	18.56	8.42
Three quarter day shared trips	**mean**	**0.00**	**1.15**	**42.56**	**63.57**	**26.20**
	std	0.00	2.82	23.92	55.65	26.77
Half day shared trips	**mean**	**3.91**	**7.50**	**38.06**	**11.50**	**67.24**
	std	18.27	11.93	47.06	19.92	62.94
Non-fishing charter trips	**mean**	**1.39**	**8.96**	**1.55**	**0.00**	**5.00**
	std	3.84	19.71	3.08	0.00	7.07
Tournament charter trips	**mean**	**3.33**	**0.46**	**0.45**	**0.00**	**0.80**
	std	3.16	0.97	0.93	0.00	1.79
Owner chartered trips	**mean**	**0.00**	**0.23**	**0.00**	**0.00**	**0.00**
	std	0.00	0.83	0.00	0.00	0.00
Total charter trips	**mean**	**126.15**	**179.09**	**243.36**	**160.68**	**210.86**
	std	81.91	79.23	62.42	160.87	129.48

Table B1. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by vessel port and trip type (1996-1997) continued.

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Recreational fishing trips by owner	**mean**	**15.52**	**5.38**	**9.27**	**24.63**	**4.00**
	std	23.25	8.14	18.20	34.70	8.94
Commercial fishing trips by owner	**mean**	**11.20**	**5.73**	**0.00**	**0.00**	**50.00**
	std	42.46	13.05	0.00	0.00	50.00
Non-fishing trips by owner	**mean**	**0.00**	**0.38**	**0.00**	**0.00**	**0.00**
	std	0.00	0.65	0.00	0.00	0.00
Tournaments by owner	**mean**	**0.74**	**0.62**	**0.09**	**0.00**	**0.40**
	std	1.74	1.19	0.30	0.00	0.89
Commercial fishing trips by captain	**mean**	**2.50**	**1.15**	**0.00**	**0.00**	**0.00**
	std	10.32	4.16	0.00	0.00	0.00
Recreational fishing trips by captain	**mean**	**1.54**	**0.00**	**0.00**	**0.00**	**0.00**
	std	3.57	0.00	0.00	0.00	0.00
Total non-charter trips	**mean**	**29.98**	**13.27**	**9.36**	**24.63**	**54.40**
	std	45.82	12.63	18.16	34.70	46.12
Total trips	**mean**	**153.91**	**192.36**	**252.73**	**185.30**	**265.26**
	std	93.42	78.66	69.45	152.77	157.35

Table B2. Average Hawaii charter fishing vessel characteristics, by vessel port (1996-1997).

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Length (feet)	**mean**	**39**	**45**	**35**	**35**	**34**
	std	6	7	5	3	3
Year built	**mean**	**1977**	**1974**	**1974**	**1979**	**1982**
	std	10	8	8	11	10
Year purchased	**mean**	**1991**	**1989**	**1986**	**1985**	**1991**
	std	6	9	8	8	6
Purchase price	**mean**	**$152,326**	**$140,115**	**$92,000**	**$152,500**	**$94,600**
	std	154003	76274	89294	145287	42288
Trailer cost	**mean**	**$7,000**	.	.	.	**$7,000**
	std	.	.	.	.	1414
Cost of additional electronics	**mean**	**$2,916**	**$6,830**	**$2,010**	**$4,050**	**$4,200**
	std	3572	9002	2222	4181	3194
Cost of other vessel upgrades	**mean**	**$27,143**	**$38,577**	**$29,625**	**$17,717**	**$9,250**
	std	35913	49087	55969	28003	15644
Cost of major fishing gear	**mean**	**$11,909**	**$12,885**	**$7,813**	**$8,750**	**$14,000**
	std	7278	5731	4105	4349	8206
Cost to obtain slip	**mean**	**$22,750**	**$0**	.	**$0**	**$0**
	std	31518	0	.	.	0
Cost of slip improvements	**mean**	**$248**	**$15**	**$281**	**$3,300**	**$0**
	std	584	55	388	4509	0
Investment in booth	**mean**	.	**$2,493**	**$333**	.	.
	std	.	1988	0	.	.
Other investment	**mean**	**$699**	**$121**	**$125**	**$250**	**$2,010**
	std	2948	247	354	500	2455

Table B3. Average annual fixed costs per Hawaii charter fishing vessel, by vessel port (1996-1997).

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Insurance	**mean**	**$4,637**	**$7,088**	**$3,957**	**$5,333**	**$3,420**
	std	2,183	4,353	1,450	2,754	901
Advertising	**mean**	**$3,580**	**$10,940**	**$1,500**	**$1,940**	**$5,700**
	std	5,335	14,827	826	2,529	3,467
Loan payments	**mean**	**$3,527**	**$3,705**	**$7,292**	**$13,000**	**$4,752**
	std	8,124	6,122	17,933	15,556	5,684
Maintenance and repairs	**mean**	**$7,230**	**$6,341**	**$4,756**	**$6,548**	**$6,450**
	std	8,001	4,822	3,656	8,984	4,631
Drydock cost	**mean**	**$5,218**	**$9,011**	**$12,533**	**$11,643**	**$3,500**
	std	6,369	17,906	10,461	9,057	1,323
Slip costs	**mean**	**$2,852**	**$7,513**	**$2,904**	**$1,677**	**$2,434**
	std	490	1,966	1,820	174	275
Fishing tackle	**mean**	**$1,900**	**$2,767**	**$1,867**	**$1,888**	**$4,030**
	std	1,057	2,033	1,297	1,485	3,002
Office expense	**mean**	**$2,195**	**$3,505**	**$2,611**	**$5,653**	**$2,352**
	std	2,029	3,152	1,285	7,472	1,735
Miscellaneous	**mean**	**$892**	**$1,508**	**$2,853**	**$1,775**	**$1,859**
	std	1,357	1,868	2,340	3,517	3,660

Table B4. Average cost per trip for Hawaii charter fishing vessels, by vessel port (1996-1997).

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Full day fuel	**mean**	**$70.43**	**$74.00**	**$102.27**	**$100.00**	**$71.67**
	std	22.61	22.59	64.78	56.57	51.07
Full day ice	**mean**	**$7.09**	**$13.99**	**$10.40**	**$12.00**	**$14.75**
	std	2.61	6.53	4.38	3.67	10.96
Full day bait	**mean**	**$0.97**	**$1.28**	**$0.00**	**$0.60**	**$2.50**
	std	1.83	2.70	0.00	1.20	2.50
Full day food	**mean**	**$9.67**	**$6.92**	**$9.17**	**$5.63**	**$38.67**
	std	2.85	2.45	12.42	3.75	53.15
Three quarter day fuel	**mean**	**$35.00**	**$51.69**	**$71.59**	**$72.50**	**$50.63**
	std	.	15.79	31.57	37.75	31.71
Three quarter day ice	**mean**	**$5.00**	**$12.08**	**$9.65**	**$11.13**	**$13.17**
	std	.	4.57	3.40	4.48	8.22
						0.00
Three quarter day bait	**mean**	.	**$1.65**	**$0.00**	**$0.60**	**$4.88**
	std	.	3.45	0.00	1.20	5.17
Three quarter day food	**mean**	**$11.00**	**$7.43**	**$9.17**	**$5.63**	**$22.00**
	std	.	2.95	12.42	3.75	25.46
Half day fuel	**mean**	**$38.84**	**$38.27**	**$46.00**	**$30.00**	**$36.67**
	std	12.57	9.97	18.83	0.00	24.66
Half day ice	**mean**	**$5.06**	**$8.64**	**$9.00**	**$11.00**	**$14.75**
	std	1.56	3.04	3.28	5.66	10.96
Half day bait	**mean**	**$1.10**	**$1.28**	**$0.00**	**$0.00**	**$2.50**
	std	1.90	2.70	0.00	0.00	2.50
Half day food	**mean**	**$9.44**	**$6.92**	**$7.86**	**$3.75**	**$17.00**
	std	3.01	2.45	11.85	5.30	15.72

Table B5. Average fishing distances from shore and port (miles), for Hawaii charter fishing vessels, by vessel port (1996-1997).

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Typical fishing distance from shore	**mean**	**4.98**	**13.55**	**9.67**	**3.42**	**5.63**
	std	2.63	7.26	6.68	0.38	2.93
Typical fishing distance from home port	**mean**	**21.11**	**26.06**	**33.21**	**35.00**	**18.17**
	std	10.36	6.18	10.07	21.21	5.48
Maximum fishing distance from shore	**mean**	**18.98**	**34.90**	**24.86**	**10.67**	**17.50**
	std	9.20	7.46	19.33	1.15	8.66

Table B6. Average labor requirements and pay structures for Hawaii charter fishing vessels, by vessel port (1996-1997).

		VESSEL PORT				
		Hono-kohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Boat labor requirements (# of workers)	**mean**	**1.89**	**2.00**	**2.00**	**2.00**	**2.20**
	std	0.31	0.00	0.00	0.00	0.45
Shore labor requirements (# of workers)	**mean**	**0.15**	**1.17**	**0.91**	**0.00**	**0.00**
	std	0.36	1.11	0.83	0.00	0.00
CAPTAIN: Unpaid (owners who keep profits)		20%	36%	0%	25%	80%
Paid by salary		28%	36%	18%	25%	0%
Paid base rate plus commission		12%	0%	0%	0%	0%
Paid commission only		0%	0%	0%	0%	20%
Paid by trip		40%	27%	82%	50%	0%
CREW: No crew		11%	0%	0%	0%	0%
Unpaid (owners who keep profits)		4%	0%	0%	50%	0%
Paid by salary		4%	0%	0%	25%	0%
Paid commission only		0%	8%	0%	0%	20%
Paid by trip		81%	92%	100%	25%	80%
SHORE WORKERS: None (done by captain/crew)		88%	33%	27%	100%	100%
Unpaid (relatives)		12%	8%	0%	0%	0%
Paid by hour		0%	0%	9%	0%	0%
Paid base rate plus commission		0%	25%	9%	0%	0%
Paid by commission only		0%	17%	55%	0%	0%
Paid by trip		0%	17%	0%	0%	0%

Table B7. Average labor rates for Hawaii charter industry workers, by vessel port (1996-1997).

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
CAPTAIN:						
Captain wage for a full day charter trip	**mean**	**$103.00**	**$85.00**	**$98.88**	**$80.00**	**$95.00**
	std	1.30	18.03	3.33	0.00	.
Annual captains' salary paid	**mean**	**$29,729**	**$26,400**	**$21,000**	.	.
	std	5,460	8,400	.	.	.
CREW:						
Crew wage for a full day charter trip	**mean**	**$69.76**	**$60.67**	**$76.00**	**$80.50**	**$95.00**
	std	7.82	6.91	6.58	21.92	.
SHORE LABOR:						
Percentage commission paid per trip sold	**mean**	.	**11.67%**	**15.00%**	.	.
	std	.	2.89	0.00	.	.

Table B8. Average charter charges and commissions paid for Hawaii charter fishing vessels, by vessel port (1996-1997).

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Full day exclusive charge	**mean**	**$524.00**	**$563.50**	**$697.73**	**$671.25**	**$725.00**
	std	108.68	53.13	67.50	88.35	165.83
Three quarter day exclusive charge	**mean**	**$400.00**	**$505.44**	**$590.91**	**$558.75**	**$580.00**
	std	0.00	44.16	66.40	64.34	103.68
Half day exclusive charge	**mean**	**$345.00**	**$449.25**	**$480.00**	**$425.00**	**$450.00**
	std	77.36	38.26	63.25	35.36	70.71
Full day shared charge	**mean**	**$60.00**	**$116.89**	**$131.00**	**$135.00**	**$164.67**
	std	.	3.10	6.58	8.66	73.08
Three quarter day shared charge	**mean**	.	**$115.00**	**$110.00**	**$111.67**	**$148.50**
	std	.	0.00	10.00	10.41	67.37
Half day shared charge	**mean**	**$60.00**	**$110.17**	**$73.00**	**$92.50**	**$123.50**
	std	.	9.62	7.58	10.61	83.70
Percent charged by desks	**mean**	**18.79%**	**19.09%**	**16.59%**	**17.43%**	**17.50%**
	std	1.63	1.69	2.31	3.68	2.89
Percent of trips booked via desks	**mean**	**20.95%**	**38.50%**	**40.91%**	**90.00%**	**46.00%**
	std	23.22	37.31	24.17	13.54	27.02

Table B9. Frequency of gear types and targets for Hawaii charter fishing vessels, by vessel port (1996-1997).

	VESSEL PORT				
	Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
GEAR USED:					
Troll (w/lures only)	4%	50%	0%	50%	20%
Troll & live/dead bait	93%	42%	86%	50%	20%
Troll & bottomfish	0%	0%	14%	0%	20%
Troll & misc.	4%	8%	0%	0%	40%
Green stick?	7%	8%	0%	0%	20%
TARGETS:					
Whatever is biting	52%	50%	73%	25%	40%
Whatever patron wants	36%	33%	18%	25%	40%
Combination	4%	8%	9%	50%	20%
Marlin	8%	8%	0%	0%	0%

Table B10. Conditions for catch and release by Hawaii charter fishing vessels, by vessel port (1996-1997).

		VESSEL PORT				
		Hono - kohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
CATCH & RELEASE?						
No		4%	0%	0%	0%	33%
Yes, always		19%	0%	14%	25%	33%
Only if patron insists		59%	45%	29%	25%	33%
If fish is not high valued		4%	27%	29%	25%	0%
If fish is in good shape		7%	0%	14%	0%	0%
If fish is not high valued and is in good shape		0%	18%	14%	25%	0%
Only in tournaments		7%	9%	0%	0%	0%
Number of fish released in previous 12 months	**mean**	**18.26**	**8.44**	**17.00**	**8.89**	**4.40**
	std	20.67	8.03	18.03	9.13	8.76

Table B11. Average annual pounds of fish caught and sold per Hawaii charter fishing vessel, by vessel port (1996-1997).

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Total pounds caught	**mean**	**6,625**	**8,723**	**12,220**	**4,333**	**17,669**
	std	4,253	5,943	16,935	577	10,950
Charter pounds caught	**mean**	**5,916**	**7,943**	**12,212**	**4,140**	**12,022**
	std	4,396	6,019	16,941	774	4,147
Non-charter pounds caught	**mean**	**709**	**780**	**8**	**193**	**5,647**
	std	1,237	2,110	18	269	7,161
Total pounds sold	**mean**	**5,286**	**5,311**	**7,290**	**1,831**	**12,437**
	std	3,817	5,635	10,900	1,567	8,762
Charter pounds sold	**mean**	**4,710**	**5,311**	**7,256**	**1,764**	**6,140**
	std	3,901	5,635	10,922	1,586	3,504
Non-charter pounds sold	**mean**	**0**	**0**	**30**	**0**	**670**
	std	0	0	67	0	773

Table B12. Average annual distribution of kept fish per Hawaii charter fishing vessel in previous 12 months, by vessel port (1996-1997).

		PORT VESSEL				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Total pounds kept	**mean**	**1,291**	**4,579**	**4,960**	**2,554**	**5,902**
	std	968	3,965	6,050	1,491	3,297
Non-charter pounds kept	**mean**	**154**	**118**	**2,694**	**40**	**880**
	std	282	254	5,929	57	627
Charter pounds kept	**mean**	**1,137**	**4,461**	**2,266**	**2,514**	**5,022**
	std	963	3,756	1,608	1,434	3,410
Pounds given to patrons	**mean**	**589**	**3,058**	**2,001**	**1,943**	**3,085**
	std	673	2,769	1,747	1,687	1,629
Pounds given to capt. & crew to eat	**mean**	**449**	**763**	**265**	**571**	**970**
	std	364	1,575	444	253	1,154
Pounds give to friends, other	**mean**	**99**	**640**	**0**	**0**	**571**
	std	185	1,329	0	0	1,142

Table B13. Average annual gross revenues per Hawaii charter fishing vessel in previous 12 months, by vessel port (1996-1997).

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Charter revenue	**mean**	**$44,310**	**$104,722**	**$115,000**	**$70,625**	**$76,625**
	std	21,153	44,483	7,071	55,685	26,374
Non-charter fish sales	**mean**	**$460**	**$538**	**$0**	**$63**	**$5,138**
	std	907	909	0	125	5,970
Charter fish sales	**mean**	**$5,941**	**$15,125**	**$17,730**	**$3,717**	**$11,675**
	std	5,794	10,371	16,327	4,394	8,990
Percent of charter fish sales to owner	**mean**	**26.84%**	**29.75%**	**34.00%**	**17.00%**	**33.50%**
	std	16.69	12.02	0.00	19.63	23.57
Mount sales	**mean**	**$1,466**	**$3,715**	**$14,475**	**$875**	**$5,183**
	std	1,112	4,435	19,301	1,237	1,049
Percent of mount sales to owner	**mean**	**0.77%**	**22.40%**	**27.50%**	**0.00%**	**8.50%**
	std	2.77	16.27	17.85	0.00	17.00
Percent of owner's income from vessel	**mean**	**19.78%**	**40.00%**	**75.00%**	**66.67%**	**76.00%**
	std	36.94	51.64	50.00	57.74	43.36

Table B14. Hawaii charter fishing vessel survey respondent demographics, by vessel port (1996-1997).

		VESSEL PORT				
		Honokohau	**Kewalo**	**Lahaina**	**Maalaea**	**Kauai**
Age	**mean**	**46.11**	**48.46**	**46.36**	**50.00**	**46.00**
	std	8.81	6.89	9.24	0.00	8.94
Total household income	**mean**	**$64,722**	**$59,091**	**$39,750**	**$47,500**	**$66,500**
	std	40,674	28,401	15,566	13,919	37,400

Section C. Results by owner type

Figures 16-20 illustrate the number of trips per vessel by owner type It is clear that absent owner vessels took the most non-charter recreational trips, and Table C1 indicates that the majority of these were taken by the owner, not the captain. This is consistent with the reporting of these owners' motivations as being primarily to have a boat available when they want to go fishing. The number of charter fishing trips increased as the involvement of owners increased; owner operated vessels averaged 192 charter trips in the previous 12 months, while absent owner vessels averaged only 111. The composition of charter fishing trips also varied by owner type, with absent owner vessels taking more exclusive trips - and in fact the majority of these vessels surveyed did not offer shared trips.

Absent owner vessels were larger and cost almost twice as much as did others, although this was slightly tempered by the greater additional investments in their vessels made by the other two groups (Table C2). Absent owners and active owners paid more to obtain their slips than did owner operators, with the highest costs paid by absent owners.

Absent owners had the lowest fixed costs and owner operators the highest (Figure 19 and Table C3). It seems likely that this is both a cause and an effect of the higher commitment to the business by owner operators. This group was also making the highest loan payments while absent owner vessels were generally completely paid off.

Trip costs reversed the above trend, with owner operators keeping their fuel and labor costs slightly lower. The lower fuel costs are due in part to the fact that these vessels typically fished slightly closer to their home port (Table C5).

Owner operators were more likely to operate their vessels alone and in general either paid themselves a salary or drew from the business profits as needed. Half of the captains of absent owner vessels were paid by salary, the remainder either received a base salary plus a commission of each trip taken or were paid a flat rate for each trip. The captains of active owner vessels were most likely to be paid by the trip, as were the crews of all groups. Absent owners did not hire shore workers, any shore work was done by the captain and/or crew. Owner operators were most likely to have unpaid help from family members.

Labor rates for captains paid by the trip were all between $91 and $111 for a full day charter trip, rates for crew members ranged from $67 to $74. Greater differences were seen in annual salaries paid to captains, these ranged from a low of $26,000 received by owner operators to a high of $34,000 paid to the captains of active owner vessels (Table C7).

Considering their vessels' larger size and higher purchase prices, absent owners typically charged relatively low prices for charter fishing trips. Again, this is consistent with the idea that the owners of these vessels do not view their operations as primarily money making ventures.

Owner operated vessels had the highest annual catches overall, however when only charter fishing catches are considered active owners dominated despite taking fewer trips. On average, absent owners sold an average of 66% of their charter catch, active owners 64% and owner operators 67% (Table C11). The largest percentage of charter caught fish not sold was given to patrons, when this portion is calculated relative to total charter pounds caught the operators of absent owner vessels gave an average of 15% of the catch to patrons, active owners 27% and owner operators 22%.

Gross charter revenues (Table C13) were highest for owner operated vessels, lowest for absent owners which reflects both the higher number of charter trips taken by owner operated vessels and the low charter prices charged by absent owner vessels. Income from non-charter fish sales was important for owner operated vessels, less so for the other groups. Sales of charter caught fish and mounts were also high for owner operated vessels, lowest for absent owner boats. Dependence on the business for income followed the same trend, respondents reported that the average share of owners' personal incomes from business profits was 67% for owner operated vessels, 8% for active owner vessels and 0% for absent owner vessels. Clearly owner operators have a far greater reliance on these operations than do the other groups.

Demographic information on survey respondents (Table C14) reveal that the operators of absent owners vessels tended to be slightly younger than those on active owner or owner operated vessels. Respondent household incomes were highest for owner operators, lowest for those from absent owner vessels.

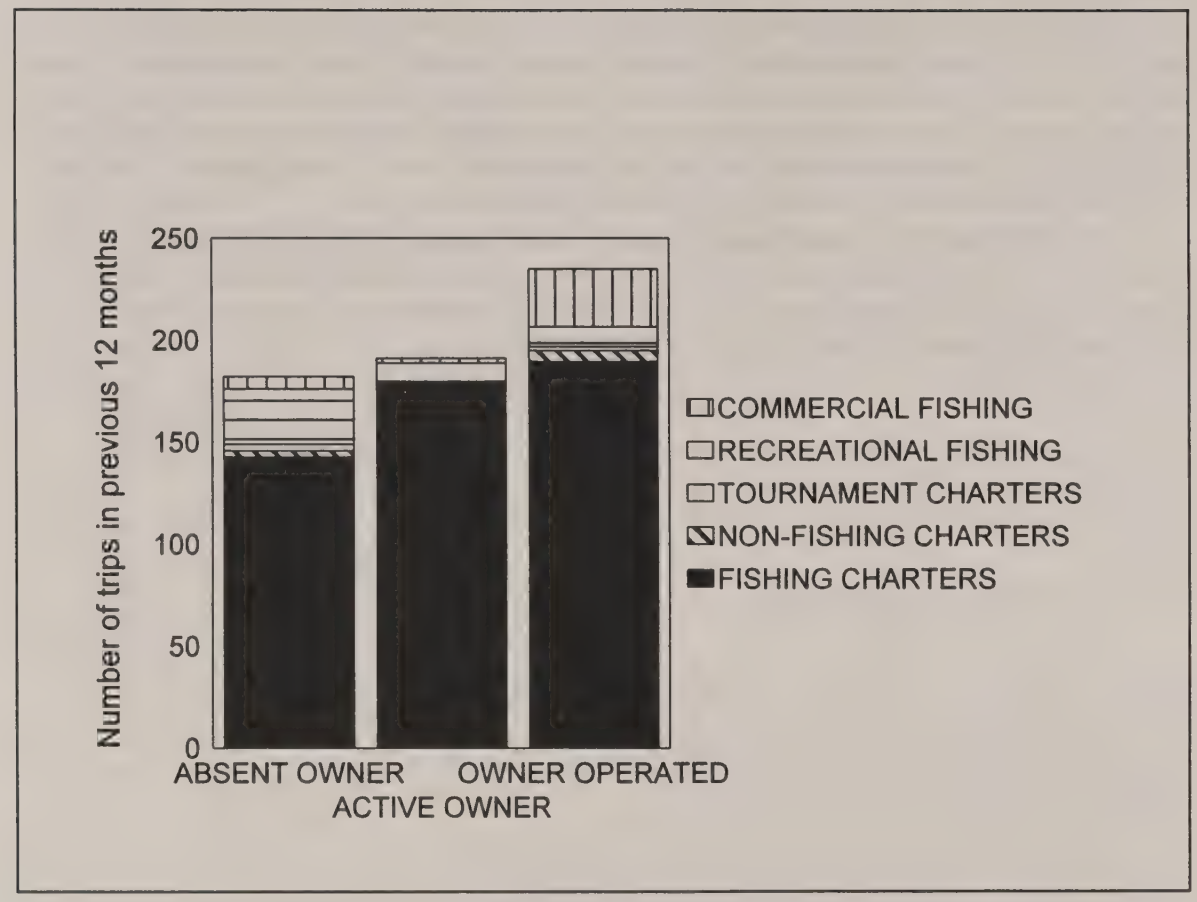

Figure 16. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by owner and trip type (1996-1997).

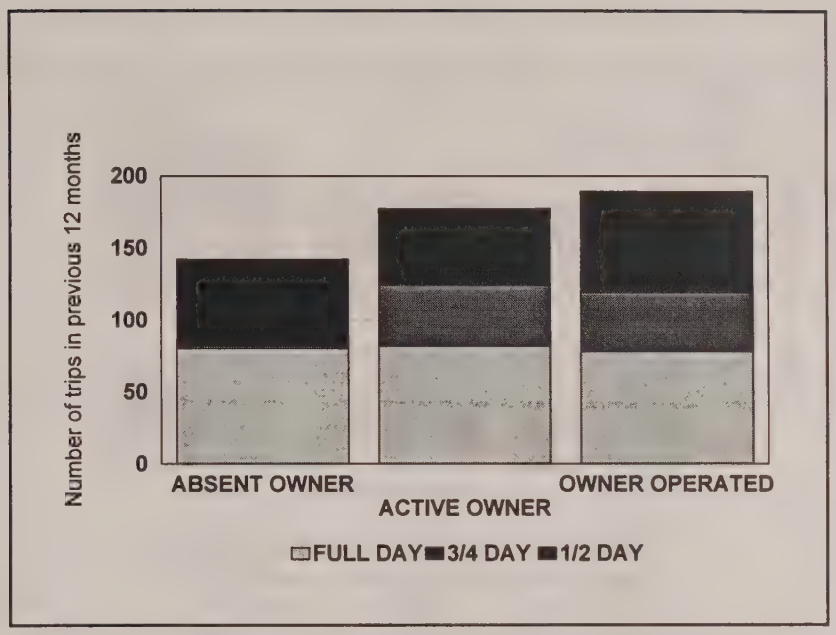

Figure 17. Average number of full, three quarter, and half day charter fishing trips per Hawaii charter fishing vessel in previous 12 months, by owner type (1996-1997).

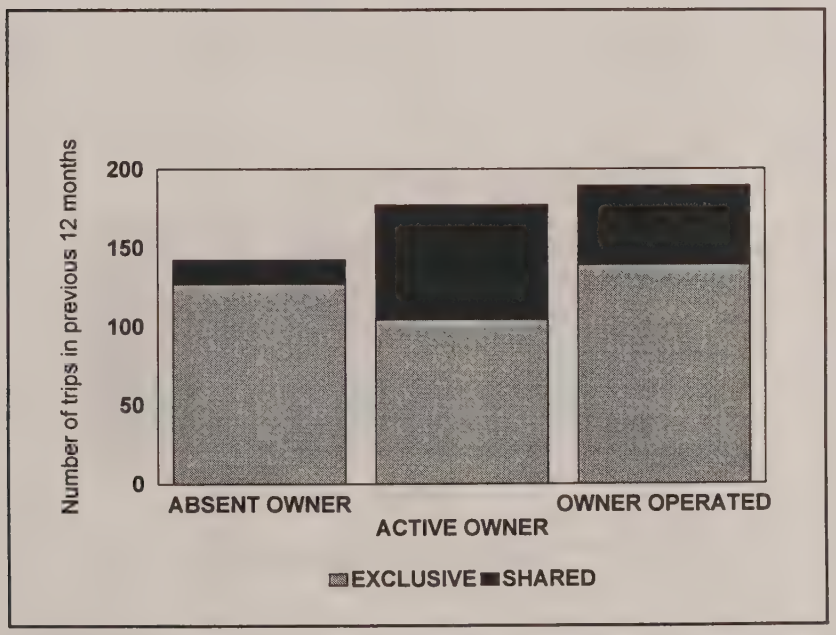

Figure 18. Average number of exclusive and shared charter fishing trips per Hawaii charter fishing vessel in previous 12 months, by owner type (1996-1997).

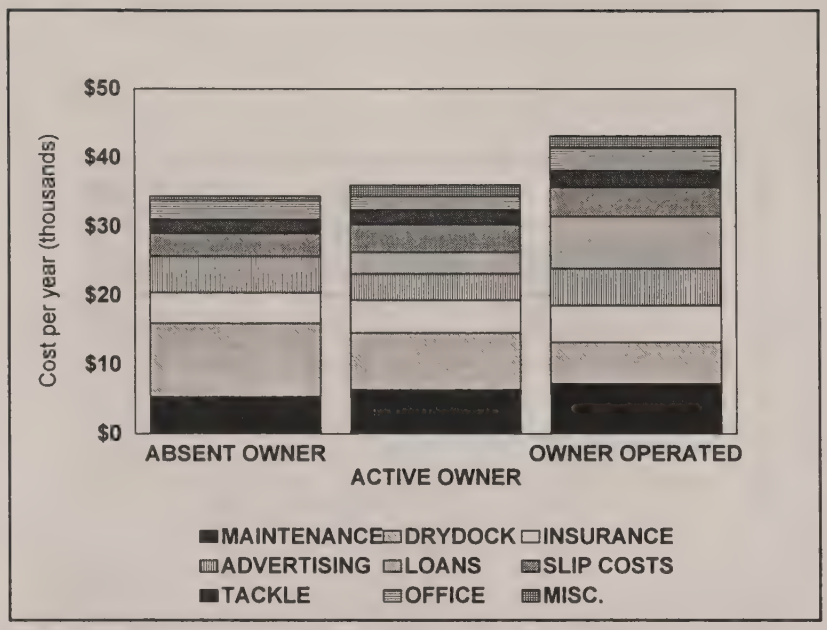

Figure 19. Average annual fixed costs per Hawaii charter fishing vessel, by owner type and cost category (1996-1997).

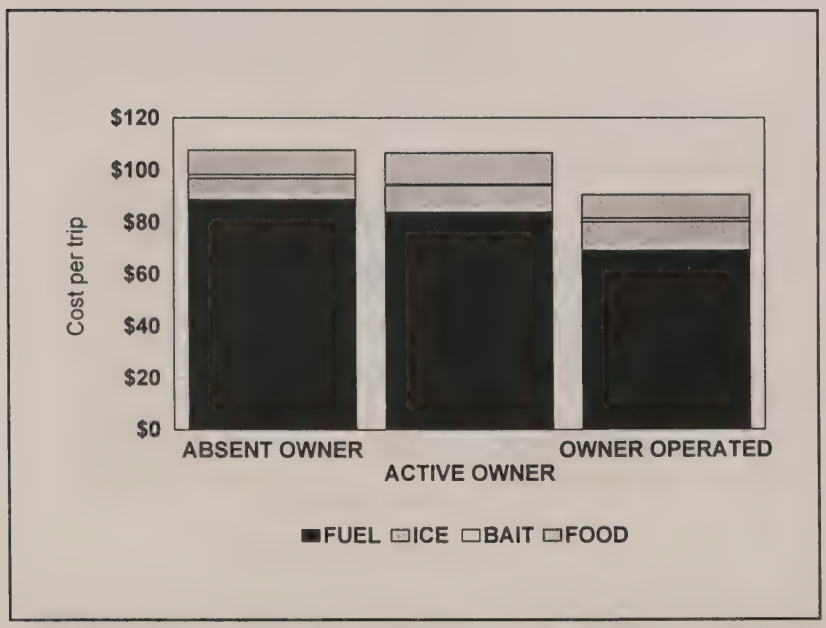

Figure 20. Average costs per full day trip for Hawaii charter fishing vessels, by owner type and cost category (1996-1997).

Table C1. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by owner and trip type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
		(n=13)	(n=22)	(n=27)
Full day exclusive trips	**mean**	**74.38**	**53.13**	**56.6**
	std	47.1	50.96	37.69
Three quarter day exclusive trips	**mean**	**1.88**	**20.43**	**28.51**
	std	6.50	32.83	48.99
Half day exclusive trips	**mean**	**50.29**	**30.66**	**53.93**
	std	38.26	24.72	51.48
Full day shared trips	**mean**	**5.76**	**28.79**	**21.47**
	std	15.58	36.22	40.06
Three quarter day shared trips	**mean**	**0.00**	**21.78**	**12.57**
	std	0.00	28.77	27.11
Half day shared trips	**mean**	**9.86**	**22.52**	**16.34**
	std	29.19	39.16	36.00
Non-fishing charter trips	**mean**	**3.11**	**0.98**	**5.33**
	std	5.87	2.44	14.22
Tournament charter trips	**mean**	**3.22**	**0.43**	**1.98**
	std	3.08	0.98	2.88
Owner chartered trips	**mean**	**0.00**	**0.14**	**0.00**
	std	0.00	0.65	0.00
Total charter trips	**mean**	**111.83**	**164.58**	**192.32**
	std	97.13	95.02	92.26

Table C1. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by owner and trip type (1996-1997) continued.

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Recreational fishing trips by owner	**mean**	**24.94**	**8.52**	**9.07**
	std	33.94	14.61	15.78
Commercial fishing trips by owner	**mean**	**0.00**	**1.67**	**28.50**
	std	0.00	7.64	58.25
Non-fishing trips by owner	**mean**	**0.11**	**0.00**	**0.15**
	std	0.33	0.00	0.46
Tournaments by owner	**mean**	**0.78**	**0.24**	**0.59**
	std	1.99	0.54	1.42
Commercial fishing trips by captain	**mean**	**6.00**	**0.71**	**0.00**
	std	15.78	3.27	0.00
Recreational fishing trips by captain	**mean**	**1.39**	**1.10**	**0.00**
	std	2.57	3.46	0.00
Total non-charter trips	**mean**	**27.73**	**12.24**	**38.31**
	std	36.49	17.47	55.61
Total trips	**mean**	**137.25**	**176.26**	**230.63**
	std	102.49	96.08	95.51

Table C2. Average Hawaii charter fishing vessel characteristics, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Length (feet)	**mean**	**41**	**37**	**39**
	std	6	5	8
Year built	**mean**	**1978**	**1978**	**1975**
	std	8	9	10
Year purchased	**mean**	**1988**	**1988**	**1990**
	std	10	8	5
Purchase price	**mean**	**$215,833**	**$113,190**	**$119,942**
	std	221973	74581	87053
Trailer cost	**mean**	**.**	**$7,000**	**$7,000**
	std	.	.	1414
Cost of additional electronics	**mean**	**$4,500**	**$3,763**	**$4,173**
	std	8646	3949	4630
Cost of other vessel upgrades	**mean**	**$18,458**	**$27,492**	**$32,833**
	std	29424	40806	45052
Cost of major fishing gear	**mean**	**$15,000**	**$10,614**	**$10,705**
	std	9839	6509	4847
Cost to obtain slip	**mean**	**$42,500**	**$21,250**	**$1,091**
	std	60104	25290	3618
Cost of slip improvements	**mean**	**$325**	**$858**	**$42**
	std	678	2237	102
Investment in booth	**mean**	**.**	**$890**	**$2,800**
	std	.	1181	2168
Other investment	**mean**	**$0.00**	**$304**	**$1,077**
	std	0.00	1341	2983

Table C3. Average annual fixed costs per Hawaii charter fishing vessel, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Insurance	**mean**	**$4,438**	**$4,753**	**$5,312**
	std	1,871	1,881	3,634
Advertising	**mean**	**$5,246**	**$3,843**	**$5,380**
	std	8,018	8,882	8,164
Loan payments	**mean**	**$0.00**	**$3,118**	**$7,528**
	std	0.00	5,979	13,061
Maintenance and repairs	**mean**	**$5,395**	**$6,390**	**$7,234**
	std	4,923	7,450	6,659
Drydock cost	**mean**	**$10,579**	**$8,174**	**$5,959**
	std	19,472	8,998	6,782
Slip costs	**mean**	**$3,317**	**$3,943**	**$4,205**
	std	1,239	2,516	2,727
Fishing tackle	**mean**	**$2,039**	**$2,114**	**$2,464**
	std	1,235	1,567	1,893
Office expense	**mean**	**$2,846**	**$1,939**	**$3,254**
	std	2,121	1,144	3,456
Miscellaneous	**mean**	**$513**	**$1,710**	**$1,754**
	std	1,063	2,184	2,274

Table C4. Average costs per trip for Hawaii charter fishing vessels, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Full day fuel	**mean**	**$89.00**	**$83.89**	**$69.24**
	std	36.06	47.57	30.66
Full day ice	**mean**	**$8.10**	**$10.25**	**$11.04**
	std	2.84	5.98	5.38
Full day bait	**mean**	**$1.43**	**$0.28**	**$1.18**
	std	2.09	0.68	2.41
Full day food	**mean**	**$9.50**	**$12.19**	**$9.02**
	std	2.10	22.40	6.00
Three quarter day fuel	**mean**	**$125.00**	**$63.33**	**$52.37**
	std	.	26.01	27.52
Three quarter day ice	**mean**	**$7.50**	**$10.03**	**$12.38**
	std	.	4.32	4.66
Three quarter day bait	**mean**	**$2.40**	**$0.29**	**$2.24**
	std	.	0.75	4.15
Three quarter day food	**mean**	**$7.50**	**$9.73**	**$10.82**
	std	.	17.16	7.60
Half day fuel	**mean**	**$45.00**	**$37.50**	**$38.03**
	std	13.92	10.83	15.98
Half day ice	**mean**	**$5.61**	**$7.00**	**$8.27**
	std	2.37	2.42	4.93
Half day bait	**mean**	**$1.32**	**$0.32**	**$1.29**
	std	2.19	0.71	2.43
Half day food	**mean**	**$9.70**	**$8.17**	**$8.80**
	std	2.10	8.32	5.95

Table C5. Average fishing distances from shore and port (miles) for Hawaii charter fishing vessels, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Typical fishing distance from shore	**mean**	**7.08**	**6.77**	**8.05**
	std	8.42	3.00	5.80
Typical fishing distance from home port	**mean**	**24.55**	**27.08**	**23.05**
	std	15.18	8.45	9.22
Maximum fishing distance from shore	**mean**	**19.85**	**20.6**	**25.18**
	std	9.99	12.18	13.72

Table C6. Average labor requirements and pay structures for Hawaii charter fishing vessels, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Boat labor requirements (# of workers)	**mean**	**2.00**	**2.00**	**1.88**
	std	0.00	0.00	0.42
Shore labor requirements (# of workers)	**mean**	**0.17**	**0.76**	**0.41**
	std	0.58	0.94	0.69
CAPTAIN: Unpaid (owners who keep profits)		0%	0%	63%
Paid by salary		50%	14%	21%
Paid base rate plus commission		17%	5%	0%
Paid commission only		0%	5%	0%
Paid by trip		33%	76%	17%
CREW: No crew		0%	0%	15%
Unpaid (owners who keep profits)		0%	9%	4%
Paid by salary		17%	0%	0%
Paid commission only		0%	5%	4%
Paid by trip		83%	86%	78%
SHORE WORKERS: None (done by captain/crew)		100%	45%	69%
Unpaid (relatives)		0%	5%	15%
Paid by hour		0%	5%	0%
Paid base rate plus commission		0%	5%	12%
Paid by commission only		0%	32%	4%
Paid by trip		0%	9%	0%

Table C7. Average labor rates for Hawaii charter industry workers, by owner type (1996-1997).

		OWNER TYPE		
		Absent owner	**Active owner**	**Owner operator**
CAPTAIN:				
Captain wage for a full day charter trip	**mean**	**$111.25**	**$96.67**	**$91.00**
	std	13.15	11.88	8.94
Annual captains' salary paid	**mean**	**$27,750**	**$33,550**	**$26,040**
	std	4,500	8,556	6,756
CREW:				
Crew wage for a full day charter trip	**mean**	**$70.60**	**$74.41**	**$67.12**
	std	12.35	9.82	9.01
SHORE LABOR:				
Percentage commission paid per trip sold	**mean**	.	**15.00%**	**11.67%**
	std	.	0.00	2.89

Table C8. Average charter charges and commissions paid for Hawaii charter fishing vessels, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Full day exclusive charge	**mean**	**$582.25**	**$617.67**	**$562.81.**
	std	132.00	134.00	109.00
Three quarter day exclusive charge	**mean**	**$569.50**	**$564.64**	**$518.13**
	std	114.00	90.00	83.00
Half day exclusive charge	**mean**	**$384.64**	**$418.16**	**$395.38**
	std	84.00	87.00	91.00
Full day shared charge	**mean**	.	**$138.00**	**$119.79**
	std	.	34.22	21.55
Three quarter day shared charge	**mean**	.	**$121.27**	**$119.44**
	std	.	43.01	14.24
Half day shared charge	**mean**	**$115.00**	**$101.50**	**$98.80**
	std	.	61.02	26.22
Percent commission charged by desks	**mean**	**18.65%**	**17.16%**	**18.68%**
	std	1.68	2.62	1.98
Percent of trips booked via desks	**mean**	**39.38%**	**34.53%**	**36.08%**
	std	32.67	32.59	32.34

Table C9. Frequencies of gear types and targets for Hawaii charter fishing vessels, by owner type (1996-1997).

	OWNER TYPE		
	Absent Owner	**Active Owner**	**Owner Operator**
GEAR USED:			
Troll (w/lures only)	17%	21%	16%
Troll & live/dead bait	83%	79%	60%
Troll & bottomfish	0%	0%	4%
Troll & misc.	0%	0%	20%
Green stick?	8%	0%	16%
TARGETS:			
Whatever is biting	45%	55%	48%
Whatever patron wants	27%	32%	36%
Combination	18%	9%	12%
Marlin	9%	5%	4%

Table C10. Conditions for catch and release by Hawaii charter fishing vessels, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
CATCH & RELEASE?				
No		0%	6%	4%
Yes, always		17%	12%	17%
Only if patron insists		58%	47%	46%
If fish is not high valued		8%	12%	17%
If fish is in good shape		8%	0%	8%
If fish is not high valued and in good shape		8%	12%	4%
Only in tournaments		0%	12%	4%
Number of fish released in previous 12 months	**mean**	**22.17**	**11.11**	**11.89**
	std	23.39	14.29	14.77

Table C11. Average annual pounds of fish caught and sold per Hawaii charter fishing vessel in previous 12 months, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Total pounds caught	**mean**	**5,750**	**9,292**	**10,141**
	std	3,527	10,961	8,162
Charter pounds caught	**mean**	**5,392**	**8,988**	**7,373**
	std	3,802	10,978	5,643
Non-charter pounds caught	**mean**	**358**	**304**	**2,767**
	std	542	666	5,561
Total pounds sold	**mean**	**3,672**	**6,014**	**7,464**
	std	4,215	7,120	6,948
Charter pounds sold	**mean**	**3,570**	**5,729**	**4,932**
	std	4,277	7,071	4,634
Non-charter pounds sold	**mean**	**0**	**0**	**290**
	std	0	0	752

Table C12. Average annual distribution of kept fish per Hawaii charter fishing vessel in previous 12 months, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Total pounds kept	**mean**	**1,997**	**4,135**	**3,216**
	std	1,300	4,610	3,246
Non-charter pounds kept	**mean**	**245**	**1,232**	**481**
	std	462	4,003	808
Charter pounds kept	**mean**	**1,752**	**2,903**	**2,735**
	std	1,375	2,676	3,040
Pounds given to patrons	**mean**	**833**	**2,445**	**1,611**
	std	779	2,679	1,514
Pounds given to owner, capt. & crew to eat	**mean**	**562**	**314**	**714**
	std	151	424	1,151
Pounds give to charity, friends, other	**mean**	**358**	**0**	**410**
	std	717	0	980

Table C13. Average annual gross revenues per Hawaii charter fishing vessel in previous 12 months, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Charter revenue	**mean**	**$56,208**	**$66,438**	**$79,030**
	std	28,135	39,781	46,084
Non-charter fish sales	**mean**	**$142**	**$423**	**$2,947**
	std	246	914	7,110
Charter fish sales	**mean**	**$3,080**	**$11,155**	**$10,182**
	std	1,692	10,755	9,155
Percent of charter fish sales to owner	**mean**	**30.20%**	**31.16%**	**25.32%**
	std	18.84	11.59	16.24
Mount sales	**mean**	**$1,798**	**$3,474**	**$4,674**
	std	1,124	3,818	9,756
Percent of mount sales to owner	**mean**	**0.00%**	**22.00%**	**7.47%**
	std	0.00	18.41	13.97
Percent of owner's income from vessel	**mean**	**0.00%**	**8.33%**	**66.73%**
	std	0.00	28.87	44.56

Table C14. Hawaii charter fishing vessel survey respondent demographics, by owner type (1996-1997).

		OWNER TYPE		
		Absent Owner	**Active Owner**	**Owner Operator**
Age	**mean**	**42.50**	**49.77**	**46.67**
	std	7.54	8.23	7.34
Total household income	**mean**	**$52,000**	**$55,526**	**$59,792**
	std	20,417	39,910	28,370

Section D. Results by vessel size

Figure 21 illustrates that although medium sized vessels took the most trips overall, small vessels took the most charter fishing trips and large vessels the fewest. Small vessels were used almost exclusively for charter fishing while larger ones showed a greater variety of uses. The fact that all large vessels surveyed were located at either Honokohau or Kewalo (Table 5) which were the two slowest harbors undoubtedly had an influence in this. Additionally, small vessels were more likely to be owner operated than were medium or large vessels and this group, as seen in Table C1, averaged more charter fishing trips than did vessels with absent or active owners. Large vessels were took fewer shared trips, as well as fewer three quarter and half day trips when compared to the other two size classes.

On average, large vessels were almost 10 years older than were small size vessels, but the large and medium size vessels were purchased by their current owners more recently (Table D2). Not surprisingly, vessel purchase prices rose with size class from a low of $85,000 for small vessels to a high of $203,000 for large vessels. Large vessels also had the highest additional investments in electronics, upgrades and fishing gear.

In general large vessels also had the highest fixed costs; maintenance, drydock and insurance costs were especially high for this group, while medium size vessels were subject to the highest loan payments.

Trip costs are illustrated in Table D4 and Figure 25 and it can be seen that they increased with vessel size, although the differences between medium and large vessels were small. Although all groups typically fished approximately 25 miles from their home ports, large vessels would fish up to 33 miles from shore while small size vessels would not venture further than 17 miles from shore (Table D5).

All size vessels generally required 2 people to take a trip. Pay structures for captains varied by vessel size with small vessel operators more likely to be owners who draw from the business profits as necessary and large vessel captains most likely to be paid by salary. Medium size vessel captains were most commonly paid by the trip, although all types of pay structures were used for this group. Vessel crews were most likely to be paid by the trip for all groups. Small vessel operators were most likely have family members who helped out with the shore labor for free (again, this group was most likely to be owner operated), while medium and large vessel operators were more likely to handle the shore work themselves.

Per trip wages for a full day trip were highest on large vessels ($103) and lowest on small vessels ($93) however small vessels had the highest per day crew costs (Table C7). For captains on salaries, annual pay ranged from a low of $21,000 for small size vessels to a high of $29,000 for large vessels.

Charter charges for a full day exclusive trip ranged from a low of $551 for a small vessel to a high of $616 for a large vessel. There was some variations in this ranking, for example large vessels typically charged less for a 3/4 day exclusive trip than did medium size vessels but in general charges rose with vessel size. Large vessels paid the highest commission rates to activity and hotel desks (19%) but, perhaps in response, booked the lowest percentage of trips (30%) through these desks.

All size vessels were likely to have trolled with artificial lures or used live and/or dead

All size vessels were likely to have trolled with artificial lures or used live and/or dead bait. Medium vessels used the greatest variety of gear types, while large vessels were most likely to have green sticks. Operators of small and medium size vessels seemed to be most focused on high catch rates as they most commonly target whatever was biting each day while large vessels were most often used to target species in which the patron expressed interest.

Operators of large size vessels reported releasing the most fish over the previous 12 months, small size vessels released the least (Table D10).

Small size vessels clearly caught the most fish over the previous 12 months, from both charter and non-charter fishing (Table D11). Due to the greater number of fishing trips taken by small size vessels, this is not surprising. Small vessels also sold a slightly greater portion of their charter catch with an average of 67% being sold. Large vessels sold an average of 63% of their charter catch and medium vessels sold 66%.

Percentages of kept charter fish given to patrons ranged from a low of 48% for large vessels to a high of 83% for small vessels. However, when calculated as a percentage of total charter catch, small vessels gave only 16% of the catch to patrons while medium vessels gave 27% and large vessels gave 26%.

The highest charter revenues were reported by the operators of medium vessels, with large vessels close behind (Table D13). Although small vessels took the greatest number of charter trips, smaller percentages of their trips were full day or exclusive - the most expensive type of trip. Additionally, trip rates rose slightly with vessel size so large vessels were able to offset lower numbers of trips with higher revenues per trip. The percent of owners' personal incomes from business profits (as estimated by survey respondents) was lowest for owners of medium sized vessels (22%) and highest for small size vessels (71%). For large size vessels, respondents estimated that 58% of the owners' personal income came from vessel operations.

Respondents on small vessels were older than were those on other boats. Total household income was lowest for operators of medium size vessels ($50,000) and highest for operators of large size vessels ($80,000).

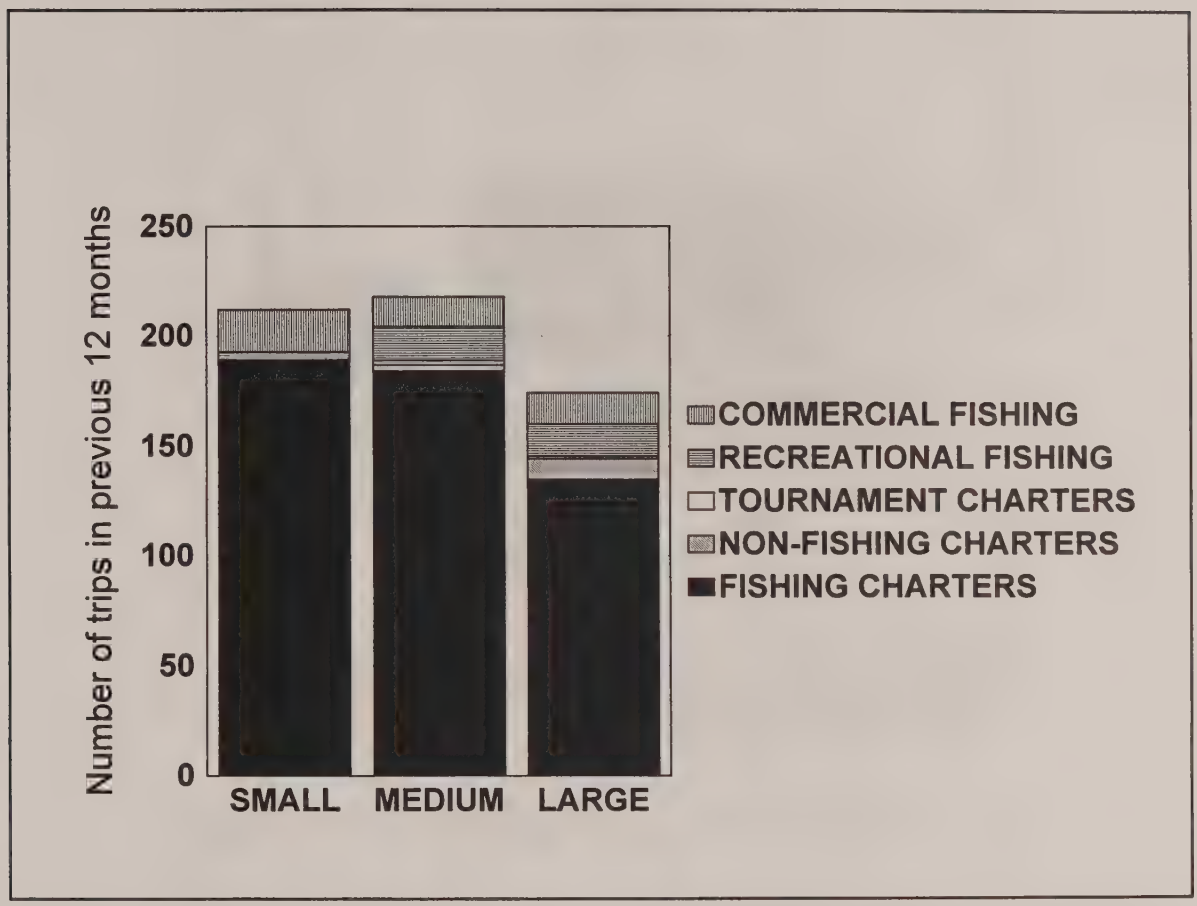

Figure 21. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by vessel size and trip type (1996-1997).

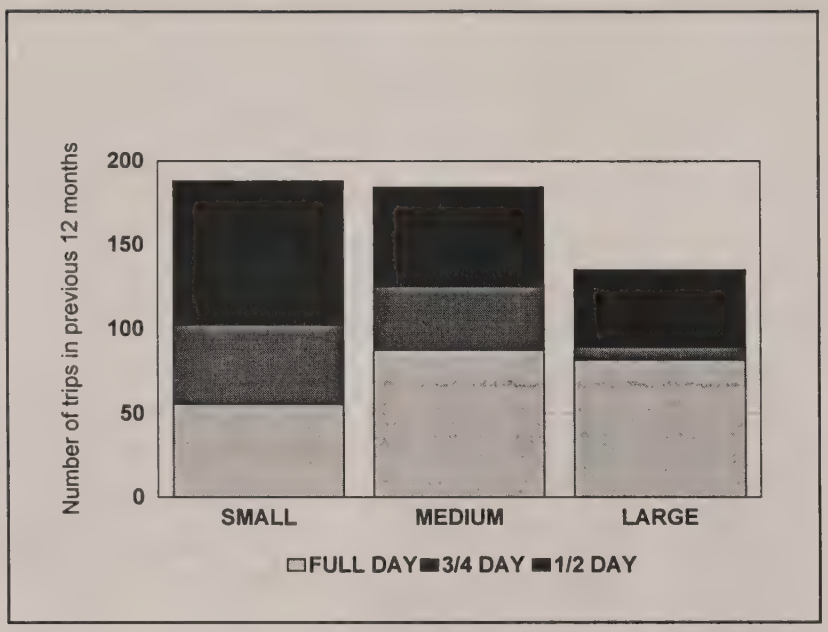

Figure 22. Average number of full, three quarter, and half day charter fishing trips per Hawaii charter fishing vessel in previous 12 months, by vessel size (1996-1997).

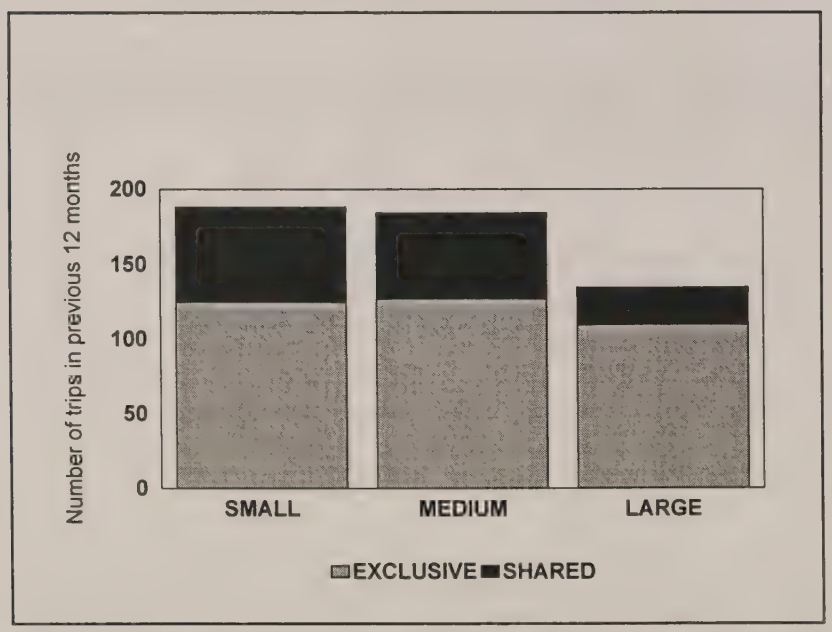

Figure 23. Average number of exclusive and shared charter fishing trips per Hawaii charter fishing vessel in previous 12 months, by vessel size (1996-1997).

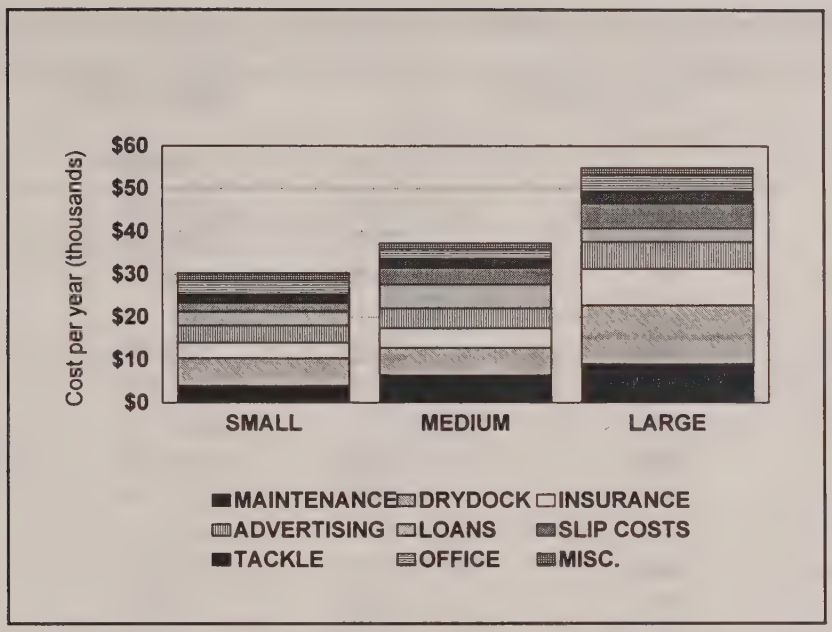

Figure 24. Average annual fixed costs per Hawaii charter fishing vessel, by vessel size and cost category (1996-1997).

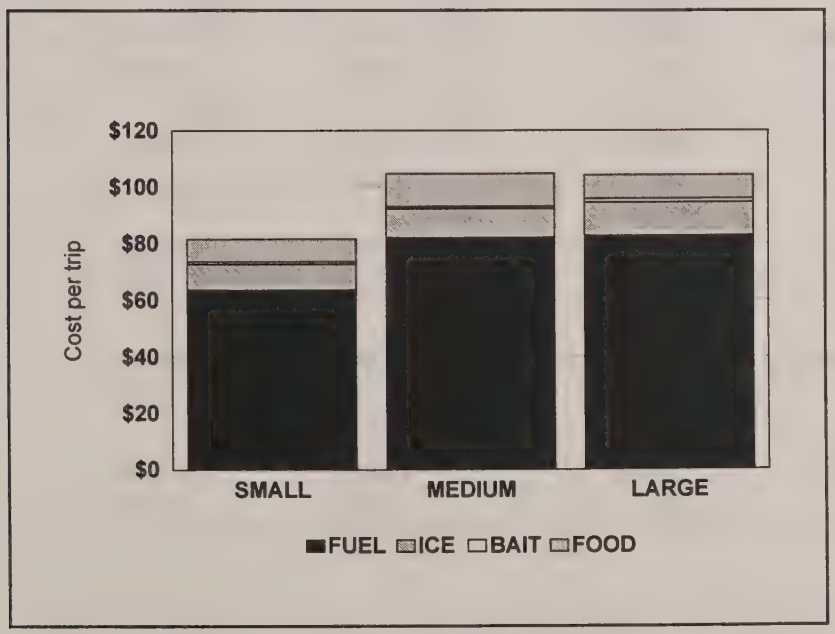

Figure 25. Average costs per full day trip for Hawaii charter fishing vessels, by vessel size and cost category (1996-1997).

Table D1. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by vessel size and trip type (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
		(n=13)	(n=36)	(n=11)
Full day exclusive trips	**mean**	**38.14**	**63.55**	**62.43**
	std	34.42	49.31	32.09
Three quarter day exclusive trips	**mean**	**25.50**	**22.40**	**7.59**
	std	42.78	42.10	18.69
Half day exclusive trips	**mean**	**61.11**	**41.05**	**39.45**
	std	62.04	33.88	39.63
Full day shared trips	**mean**	**17.31**	**23.83**	**19.01**
	std	28.37	35.11	47.27
Three quarter day shared trips	**mean**	**21.15**	**14.91**	**0.00**
	std	32.83	26.39	0.00
Half day shared trips	**mean**	**24.84**	**18.53**	**6.43**
	std	31.69	41.90	12.07
Non-fishing charter trips	**mean**	**0.46**	**2.50**	**9.45**
	std	1.20	4.52	21.59
Tournament charter trips	**mean**	**0.69**	**2.08**	**1.27**
	std	1.70	2.89	2.15
Owner chartered trips	**mean**	**0.00**	**0.09**	**0.00**
	std	0.00	0.51	0.00
Total charter trips	**mean**	**166.88**	**172.54**	**145.64**
	std	93.99	104.64	78.95

Table D1. Average number of trips per Hawaii charter fishing vessel in previous 12 months, by vessel size and trip type (1996-1997) continued.

		VESSEL SIZE		
		Small	**Medium**	**Large**
Recreational fishing trips by owner	**mean**	**3.00**	**13.94**	**13.59**
	std	5.57	20.27	26.89
Commercial fishing trips by owner	**mean**	**19.23**	**11.43**	**14.05**
	std	56.04	40.38	25.88
Non-fishing trips by owner	**mean**	**0.00**	**0.03**	**0.36**
	std	0.00	0.17	0.67
Tournaments by owner	**mean**	**0.54**	**0.30**	**1.00**
	std	1.66	0.64	2.05
Commercial fishing trips by captain	**mean**	**0.00**	**2.21**	**0.00**
	std	0.00	8.98	0.00
Recreational fishing trips by captain	**mean**	**0.00**	**1.08**	**0.00**
	std	0.00	3.05	0.00
Total non-charter trips	**mean**	**22.77**	**28.04**	**29.00**
	std	55.31	42.22	31.97
Total trips	**mean**	**189.65**	**199.06**	**174.64**
	std	86.52	114.78	76.77

Table D2. Average Hawaii charter fishing vessel characteristics, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
Length (feet)	**mean**	**31**	**38**	**50**
	std	1	3	4
Year built	**mean**	**1981**	**1976**	**1973**
	std	9	9	11
Year purchased	**mean**	**1985**	**1990**	**1989**
	std	7	6	10
Purchase price	**mean**	**$84,769**	**$130,515**	**$202,900**
	std	53,373	86,730	214,762
Trailer cost	**mean**	**$6,500**	**$8,000**	.
	std	707	.	.
Cost of additional electronics	**mean**	**$5,005**	**$2,656**	**$7,890**
	std	4,224	2,953	10,066
Cost of other vessel upgrades	**mean**	**$10,015**	**$23,296**	**$59,500**
	std	24,769	37,858	45,936
Cost of major fishing gear	**mean**	**$8,591**	**$11,413**	**$14,643**
	std	4,852	6,397	7,028
Cost to obtain slip	**mean**	**$5,000**	**$21,000**	**$0**
	std	13,229	33,620	0
Cost of slip improvements	**mean**	**$282**	**$450**	**$280**
	std	468	1,702	655
Investment in booth	**mean**	**$333**	**$1,186**	**$3,667**
	std	.	1,413	2,082
Other investment	**mean**	**$692**	**$678**	**$98**
	std	1037	2681	229

Table D3. Average annual fixed costs per Hawaii charter fishing, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
Insurance	**mean**	**$3,602**	**$4,526**	**$8,467**
	std	1,344	1,655	4,874
Advertising	**mean**	**$4,064**	**$4,644**	**$6,294**
	std	3,238	8,125	12,583
Loan payments	**mean**	**$3,244**	**$5,518**	**$3,200**
	std	7,070	11,822	5,231
Maintenance and repairs	**mean**	**$3,976**	**$6,501**	**$9,100**
	std	2,023	6,601	8,569
Drydock cost	**mean**	**$6,402**	**$6,353**	**$13,862**
	std	8,990	6,528	20,752
Slip costs	**mean**	**$2,011**	**$3,937**	**$5,799**
	std	776	2,017	3,104
Fishing tackle	**mean**	**$1,999**	**$2,141**	**$2,900**
	std	2,008	1,377	2,009
Office expense	**mean**	**$3,263**	**$2,215**	**$3,844**
	std	3,918	1,790	3,218
Miscellaneous	**mean**	**$1,711**	**$1,380**	**$1,588**
	std	2,069	2,207	1,821

Table D4. Average costs per trip for Hawaii charter fishing vessels, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
Full day fuel	**mean**	**$63.82**	**$82.21**	**$82.80**
	std	28.28	44.26	27.91
Full day ice	**mean**	**$8.95**	**$10.04**	**$11.59**
	std	3.40	4.91	7.57
Full day bait	**mean**	**$0.86**	**$0.76**	**$1.33**
	std	1.82	1.87	2.23
Full day food	**mean**	**$8.00**	**$11.65**	**$8.40**
	std	7.43	17.29	3.12
Three quarter day fuel	**mean**	**$49.04**	**$66.25**	**$57.00**
	std	23.13	32.08	19.67
Three quarter day ice	**mean**	**$8.93**	**$11.05**	**$14.58**
	std	3.68	4.50	5.05
Three quarter day bait	**mean**	**$0.69**	**$1.77**	**$0.00**
	std	1.75	3.60	0.00
Three quarter day food	**mean**	**$7.50**	**$11.79**	**$8.00**
	std	8.54	15.20	0.00
Half day fuel	**mean**	**$33.42**	**$39.76**	**$43.89**
	std	12.39	14.12	14.27
Half day ice	**mean**	**$7.18**	**$7.32**	**$7.36**
	std	3.31	4.03	3.88
Half day bait	**mean**	**$1.13**	**$0.75**	**$1.33**
	std	1.96	1.94	2.23
Half day food	**mean**	**$7.00**	**$9.63**	**$8.40**
	std	7.17	6.84	3.12

Table D5. Fishing distances from shore and port (miles), for Hawaii charter fishing vessels, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
Typical fishing distance from shore	**mean**	**5.23**	**6.94**	**12.00**
	std	2.14	5.21	8.44
Typical fishing distance from home port	**mean**	**24.06**	**24.59**	**25.00**
	std	7.43	11.6	11.55
Maximum fishing distance from shore	**mean**	**16.5**	**22.25**	**32.71**
	std	8.83	12.63	11.47

Table D6. Average labor requirements and pay structures for Hawaii charter fishing vessels, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
Boat labor requirements (# of workers)	**mean**	**1.76**	**2.03**	**1.91**
	std	0.44	0.16	0.30
Shore labor requirements (# of workers)	**mean**	**0.46**	**0.43**	**0.70**
	std	0.52	0.80	1.06
CAPTAIN: Unpaid (owners who keep profits)		46%	19%	25%
Paid by salary		15%	19%	63%
Paid base rate plus commission		0%	8%	13%
Paid by commission only		0%	3%	0%
Paid by trip		38%	50%	13%
CREW: No crew		23%	0%	9%
Unpaid (owners who keep profits)		15%	3%	0%
Paid by salary		0%	5%	0%
Paid commission only		0%	5%	0%
Paid by trip		62%	57%	91%
SHORE WORKERS: None (done by captain/crew)		54%	72%	60%
Unpaid (relatives)		23%	6%	0%
Paid by hour		8%	0%	0%
Paid base rate plus commission		0%	3%	30%
Paid by commission only		15%	17%	0%
Paid by trip		0%	3%	10%

Table D7. Average labor rates for Hawaii charter industry workers, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
CAPTAIN:				
Captain wage for a full day charter trip	**mean**	**$93.00**	**$98.50**	**$102.50**
	std	9.75	11.82	31.82
Annual captains' salary paid	**mean**	**$21,000**	**$28,583**	**$28,950**
	std	.	5,854	7,564
CREW:				
Crew wage for a full day charter trip	**mean**	**$74.17**	**$70.23**	**$70.00**
	std	9.70	11.13	8.16
SHORE LABOR:				
Percentage commission paid per trip sold	**mean**	**15.00%**	**15.00%**	**10.00%**
	std	.	0.00	0.00

Table D8. Average charter charges and commissions paid for Hawaii charter fishing vessels, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
Full day exclusive charge	**mean**	**$551.38**	**$590.00**	**$616.20**
	std	122.63	127.77	105.76
Three quarter day exclusive charge	**mean**	**$500.00**	**$567.78**	**$528.50**
	std	81.65	91.93	40.81
Half day exclusive charge	**mean**	**$368.46**	**$401.82**	**$440.60**
	std	103.11	79.33	82.67
Full day shared charge	**mean**	**$123.13**	**$134.27**	**$118.00**
	std	27.12	33.18	4.00
Three quarter day shared charge	**mean**	**$115.00**	**$124.08**	.
	std	16.26	40.33	.
Half day shared charge	**mean**	**$89.38**	**$108.38**	**$111.00**
	std	26.92	60.17	11.53
Percent commission charged by desks	**mean**	**17.25%**	**18.15%**	**19.25%**
	std	2.49	2.32	1.07
Percent of trips booked via desks	**mean**	**35.97%**	**30.11%**	**30.11%**
	std	34.16	31.47	33.05

Table D9. Frequencies of gear types and targets for Hawaii charter fishing vessels, by vessel size (1996-1997).

	VESSEL SIZE		
	Small	**Medium**	**Large**
GEAR USED:			
Troll (w/lures only)	17%	21%	9%
Troll & live/dead bait	58%	74%	73%
Troll & bottomfish	0%	3%	0%
Troll & misc.	25%	3%	9%
Green stick?	8%	6%	18%
TARGETS:			
Whatever is biting	46%	58%	33%
Whatever patron wants	38%	25%	56%
Combination	8%	11%	11%
Marlin	8%	6%	0%

Table D10. Conditions for catch and release by Hawaii charter fishing vessels, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
CATCH & RELEASE?				
No		0%	3%	9%
Yes, always		22%	15%	9%
Only if patron insists		78%	45%	36%
If fish is not high valued		0%	15%	18%
If fish is in good shape		0%	6%	9%
If fish is not high valued and in good shape		0%	9%	9%
Only in tournaments		0%	6%	9%
Number of fish released in previous 12 months	**mean**	**11.52**	**13.08**	**18.57**
	std	18.52	14.23	24.21

Table D11. Average annual pounds of fish caught and sold per Hawaii charter fishing vessel in previous 12 months, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
Total pounds caught	**mean**	**12,033**	**9,227**	**6,606**
	std	13,076	7,244	5,799
Charter pounds caught	**mean**	**9,784**	**7,777**	**5,162**
	std	12,788	4,492	5,794
Non-charter pounds caught	**mean**	**2,249**	**1,450**	**1,443**
	std	6,657	3,712	2,289
Total pounds sold	**mean**	**8,911**	**6,568**	**3,868**
	std	9,466	5,665	4,977
Charter pounds sold	**mean**	**6,579**	**5,106**	**3,222**
	std	8,566	3,373	5,060
Non-charter pounds sold	**mean**	**459**	**88**	**0**
	std	998	367	0

Table D12. Average annual disposition of kept fish per Hawaii charter fishing vessel in previous 12 months, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
Total pounds kept	**mean**	**4,373**	**3,114**	**3,085**
	std	5,047	2,954	3,800
Non-charter	**mean**	**2533**	**197**	**239**
pounds kept	std	4,883	415	378
Charter	**mean**	**1,840**	**2,918**	**2,846**
pounds kept	std	955	2,814	3,627
Pounds given	**mean**	**1,532**	**2,091**	**1,359**
to patrons	std	981	2,399	1,433
Pounds given to owner,	**mean**	**290**	**566**	**791**
capt. & crew to eat	std	367	622	1566
Pounds give to charity,	**mean**	**18**	**173**	**696**
friends, other	std	47	543	1,308

Table D13. Average annual gross revenues per Hawaii charter fishing vessel in previous 12 months, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
Charter revenue	**mean**	**$66,755**	**$75,821**	**$74,234**
	std	39,657	38,864	54,955
Non-charter fish sales	**mean**	**$2,820**	**$1,211**	**$657**
	std	8,918	2,972	943
Charter fish sales	**mean**	**$10,003**	**$8,852**	**$10,593**
	std	12,194	7,448	11,647
Percent of charter fish sales to owner	**mean**	**23.92%**	**32.16%**	**19.29%**
	std	18.24	12.24	18.04
Mount sales	**mean**	**$1,436**	**$5,164**	**$2,627**
	std	1,488	9,403	3,963
Percent of mount sales to owner	**mean**	**10.50%**	**14.10%**	**2.50%**
	std	19.91	16.81	5.00
Percent of owner's income from vessel	**mean**	**71.00%**	**22.22%**	**58.33%**
	std	43.32	42.37	46.77

Table D14. Hawaii charter fishing vessel survey respondent demographics, by vessel size (1996-1997).

		VESSEL SIZE		
		Small	**Medium**	**Large**
Age	**mean**	**50.00**	**46.89**	**43.64**
	std	7.07	8.45	6.74
Total household income	**mean**	**$63,409**	**$49,750**	**$80,000**
	std	30,213	23,901	54,429

Section E. Respondents' comments

Survey respondents were asked the following open-ended question in order to elicit information on their views regarding fishery management in Hawaii and to assure them a chance to voice their primary concerns related to charter fishing.

*"Do you have any suggestions how **fishery** (not harbor) management in Hawaii could be improved, or topics which need further study?"*

The responses are listed by harbor and topic. The number of responses (if greater than 1) is indicated in parentheses.

Honokohau

Longliners:

Ban longliners (10)
More regulation of longliners
Less longliners would be good
Longliners are okay but it would be better if they were gone
Move longliners further out
No longliners inside EEZ
Longliners hurt our business, they catch too much fish
Longliners kill everything they catch
Longliners have too much bycatch
Longliners are 5% of the workforce but catch 90% of the fish
We no longer catch swordfish since the longliners came
Make quotas for longliners
Ban sale of billfish (including swordfish) by everybody. The majority landed now are pre-reproductive and if not careful Hawaii will follow the pattern of other swordfish fisheries

Marlin:

Ban sale of marlin by everybody (2)
Regulate sale of blue marlin
Ban sale of marlin by longliners
Need bag limit on marlins, one per day and release the rest
Marlin are good now, but need to be managed proactively
We need to examine the value of marlin as sport vs. food fish

Minimum sizes, bag limits:

Need bag limits for everybody
Regulate tropical fish collectors, put limits on them
Have minimum size limits for sale
Need bag limits on all species for recreational fishermen, then increase taxes on commercial guys and put the money into marine resources

No sale of ahi less than 20 pounds, to deter seamount fishing of small ones
Minimum size for ahi should be 20 pounds
Don't need minimum sizes for charter boats because they don't catch much anyway
Stop seamount fishing, they should have minimum size of 50 pounds to sell

Tag/catch and release:
Need more tag and release
Have a five year ban on live baiting, fish released after live baiting die
Don't use live bait if you plan to release the fish. Use only one hook and heavy tackle. Females die if on lures, to stop movement is death for them.
Releasing fish should be an economic issue, not a moral one

FADS:
Get rid of FADS, they don't work well enough to justify their cost
FADS aggregate small tuna and just help people to overfish
More FADS

Charter vs. other fisheries:
Longliners compete for fish, we catch plenty of fish with longline hooks in them
Longliners are probably impacting us, they catch marlins and tunas
Charter/sportsfishermen are only a minor portion of the harvest
Need international management, we are tiny compared to high seas fishing
Not sure if charter boats have much impact
Regulate commercial fishing boats before charter boats
Restrict commercial fishing on game species
Ban offshore gillnetting
Don't allow sales of fish except by commercial boats, recreational fishermen flood the market and drive down prices.
Marlin caught by charter boats are worth more than if caught by longliners

Various issues:
Allowing slip transfers is a problem, if you sell your boat you should have to give up your slip
Let fishermen manage things
Need more management
Ahi catch is declining, marlin is unchanged
More international management
Keep catches sustainable
Studies don't help if there is no action
No whale sanctuary
Don't require/charge tourists for fishing licenses, it would be anti-business
Extra fees and taxes keep tourists away, politicians don't care because tourists don't vote
More cost effective to make species non-saleable rather than try to enforce bans on fishing
Charter industry needs better marketing, prebook fishing charters before leaving home

No offshore gillnetting
Less fish now and they are smaller
Big netters are damaging
No longer catch swordfish due to longliners
Need fish farming
More enforcement, esp. of folks taking charters on small unlicensed boats
Extend EEZ as much as possible
More aquaculture
Fish is too cheap
Need to deal with rights to fishing by native Hawaiians
More marinas would relieve pressure on charter boats by opening up recreational slips

Kauai

Longliners:
Stop longliners, they will deplete the resource like they've done elsewhere
Don't allow longline fishermen on management boards

Marlin:
Tag (or catch) and release should be mandatory for blue marlin

Minimum sizes, bag limits:
Minimum size for yellowfin should be 10-15 pounds at least

FADS:
Keep replacing FADS (2)
Anchor FADS better, Coast Guard ones last 30 years.
FADS attract too much fish, too easy to catch them

Tag/catch and release:
Tag (or catch) and release should be mandatory for blue marlin

Charter vs. other fisheries:
Hawaii fishermen fish spawning yellowfin, this cannot continue increasing indefinitely. I wonder how much of the longline catch is in spawning condition.

Various issues:
More artificial reefs would be good
No privatization of harbors
Need consensus on problems, public education before things will change
Local priority has traditionally been sustenance
Need a couple of quality fishing charter operations on the North Shore
Keep out (akule/opelu) purse seiners, allow hook and line fishing only

Regulate the big guys, not the little ones
Bottomfish closures are based on poor info by classroom biologists - these fish do cross channels
Close bottomfish areas that are fished out, not those that are producing

Kewalo

Longliners:
Longliners fish non-selectively and then blame sportsfishermen
Longliners don't report released marlins (usually the biggest ones) so the data is incomplete
Longliners used to set deep and target big-eye, now they also set shallow to target yellowfin but also catch marlin and mahimahi - they should go back to the old style.
Less longlining
Quotas for longliners, especially. for yellowfin
I would like longliners out but I know that they have a right to be here
Longliners should have bag limits or ITQs

Marlin:
Someday we may need to ban sale of blue marlin but right now there is still lots of fish

Minimum sizes/bag limits:
We need minimum sizes for sale
Should have a minimum sales weight of 1-2 pounds for aku

Tag/catch and release:
No comments

FADS:
No comments

Charter vs. other fisheries:
We don't catch big ahi anymore, because of the longliners

Various issues:
Less regulation is good, things are good the way they are
No recreational fishing licenses
Be proactive rather than reactive
Less regulation
The charter industry needs more advertising
Not everyone follows applicable laws
Not everyone files catch reports or files them accurately
Stop all gillnetting
Need more charter industry representation on WESPAC

Lahaina

Longliners:

Keep longliners and gillnetters out
Longliners fish indiscriminately
Longliners don't bother me, I never see any
Keep longliners and netters out
Longliners aren't that significant

Marlin:

No sale of blue marlin
Ban sale of marlin
Marlin is a fish that local people can afford to eat
Banning sale of marlin wouldn't help

Minimum sizes, bag limits:

No minimum sizes

Tag/catch and release:

No comments

FADS:

More FADS or at least maintain them

Charter vs. other fisheries:

No comments

Various issues:

No licenses for charter patrons
Get DLNR out of management, they have an anti-business attitude
Over regulation already, have to have a permit just to put up a sign
Have to give 7 days notice to pick up a charter at another harbor, but patrons don't call 7 days in advance!
Don't interfere, regulations just cause more problems and cost money

Maalaea

Longliners:

Longliners have reduced our catches a great deal

Marlin:

Banning the sale of marlin might be a good idea, wouldn't hurt our operations

Minimum sizes, bag limits:

Increase minimum size for yellowfin sale to 3 pounds

Tag/catch and release:
No comments

FADS:
Maintain FADS, replace promptly
Put nets or streamers on FADS
Need another FAD for us, we can only make it to one per day the way it is set up
FADS are critical to the offshore fishery but are so poorly maintained in Maui County
Maui has less FADS then Kauai or Oahu, not fair
The best FAD for Maui kept getting knocked off by tugboats, we miss it

Charter vs. other fisheries:
Less aku now, are longliners catching them? People use them and the birds that follow them to find marlin and yellowfin. Less aku means less birds.
Longliners compete for marlin

Various issues:
If DLNR closes 2 miles around Kahoolawe then Maui County shouldn't have any other closed areas, that is our major fishing area. Also, some boats don't have GPS and it is hard for them to know where the 2 mile line is.
Need more research into the movement of tunas

Molokai
Enterprise zone for Molokai would help (it could reduce slip costs by 50%)
We must give 7 days notice to pick up charters from other harbors, this is unworkable

VI. Conclusions

This project found substantial differences in operations of Hawaii's charter fishing fleet. Of greatest importance to industry members may be variations in the number of charter fishing trips booked. There was a 42% difference in number of trips in the range of both vessel sizes and owner types, and a 48% difference in number of trips between ports. This was not unexpected as it is well known that some harbors are busier than others, and this is an important determinant of vessel profitability. Lahaina harbor was found to have the highest average number of charter fishing trips taken (243) and Honokohau the least (126) with Kauai, Maalaea and Kewalo falling in between the two extremes. Reasons for these differences are not obvious based on survey data. The charge for a full day exclusive fishing trip is highest for Kauai based vessels ($725), lowest for Honokohau boats ($524). One might expect that vessels with lower rates would take more trips than those with higher rates but this was not the case.

Mean vessel lengths were lowest for Kauai based vessels (34 feet) and highest for Kewalo boats (45 feet). One might expect that larger vessels would be more popular (take more trips) than smaller ones, especially given that charter charges are not directly related to vessel lengths, but again this is not the case. Inspection of mean advertising costs incurred by vessels at each harbor shows that Kauai based operators had the lowest advertising costs ($3,420) and Kewalo based operators the highest ($10,940). Clearly it was not advertising expenditures which were most instrumental in attracting patrons. Finally, when harbors are ranked by mean catch per trip (calculated as the mean pounds caught annually on charter fishing trips divided by the mean total number of charter fishing trips for each harbor) the highest catch rate occurred on Kauai based vessels (57 pounds per trip) followed by Lahaina vessels (50 pounds per trip), Honokohau (47 pounds per trip) and Maalaea (26 pounds per trip) These rankings do not explain the differences in the number of charter fishing trips taken.

Given this lack of relationships between charter rates, vessel lengths, advertising, catch per trip and the number of trips booked, other explanatory factors may be considered. Some physical and operational differences between harbors are largely external to vessel operations and beyond the control of industry members. Most important to securing bookings are sufficient foot traffic, the presence of sales booths at the docks, referrals from hotel or activity desks, and the number of boats competing for patrons. Based on observation, Lahaina harbor clearly had the most foot traffic, partly because it is located in the center of town but also because of the many other ocean activities (parasail, dive boats, dinner cruises etc.) available there. The presence of sales booths at Lahaina ensured that there was someone available at all times to solicit business, answer questions and book trips. In addition to trips booked at their sales booths, Lahaina based vessels also secured an average of 41% of their trips via hotel or activity desks. Finally, these vessels also benefited from limited competition with only 18 charter fishing vessels available. By contrast Honokohau harbor is located approximately 3 miles out of town, offers few other ocean activities and has low foot traffic. Sales booths are not permitted at Honokohau harbor and, in addition these vessels had the lowest rate of trips booked via hotel or activity desks (21%). Finally and perhaps most importantly, there were 128 charter fishing vessels operating out of Honokohau harbor. With this level of competition it is extremely difficult for any one operation to succeed.

Based on open-ended questions contained in the survey, Hawaii's charter fishing industry is concerned about the management of Hawaii's fisheries. Issues of primary concern include catch competition from Hawaii-based longliners, and possible negative perceptions of local stocks due to Hawaii's unique state law which allows the sale of blue marlin. The lack of a cohesive industry organization makes concerted efforts towards management changes difficult, and the lack of a system to identify charter fishing vessels in Hawaii state records means that data to support any calls for change have been unavailable.

Charter Vessel Operator Survey

Harbor:
Date:
Time:

1. Do you own this boat?

2. What is the owner's state of residence?

3. Is the owner a parttime resident of Hawaii?

4. How long was the owner here over the past 12 months?

5. How involved is the owner in the operation of the boat and/or business?

6. Does the owner own more than one charter boat in Hawaii? If yes, how many?

7. Does the owner own charter boats/businesses elsewhere?

8. Is the owner involved in other aspects of the charter or fishing industry- ex. tournaments, commercial fishing?

9. What is the form of ownership for this boat?
- incorporated
- partnership
- sole proprieter
- S. corporation
- other

10. How many shareholders or partners are there?

11. How would you describe the owner's major motivation for owning a charter boat in Hawaii?
- to make money from charters
- to have a boat available when they want to go fishing
- to keep a slip for the boat
- to work the business themselves
- other

12. Who normally captains the charters?
owner
hired captain
both (describe)

13. How long is the boat overall?

14. In what year did the owner buy the boat?

15. What year it was built?

16. How much did the boat cost when the owner bought it?

17. How much did it cost for the slip?

18. How much has been spent since then for:

A.) Electronics currently used

B.) Major upgrades and improvements to the boat (not repairs, just improvements)

C.) Rods/reels/pullers and other major gear currently used

D.) Slip improvements

E.) Other (trailer, icemaker, freezer etc.)

19. In the past 12 months, how much money was spent for:

A.) Insurance

B.) Marketing (advertising - not commissions)

C.) Loan payments on the boat

D.) Maintenance and repair (not drydock, not operating costs, just upkeep)

E.) Mooring fees/slip utilities

F.) Fishing tackle (lines, lures, leaders etc.)

G.) Office/accounting/legal costs

H.) Business auto expense

I.) Business phone expense

J.) Association dues

K.) Other

20. How often does the boat go to drydock?

21. How much did it cost the last time it went?

22. How many people does it take to run the boat for a charter fishing trip?

23. How many people does it take on shore to run this business? What do they do?

24. How are the shore workers paid? Do they get commissions, wages, tips, bonuses?

25. What was the cost of shore labor for the past 12 months? Or what was their pay schedule?

26. How many different (PAID) people worked in this business in the past 12 months?

STATUS	# ON THE BOAT including captain	# ON SHORE
FULL TIME (100%)		
HALF TIME (50%)		
PART TIME (<50%)		
INDEPENDENT CONTRACTORS		

27. How many paid charter trips did the boat make in the past 12 months? Total = _____

28. Can you break that down into these categories?

TYPE	FISHING CHARTER	NON-FISHING CHARTER	OWNER CHARTER	TOURNAMENT CHARTER
FULL DAY EX.				
SH.				
3/4 DAY EX.				
SH.				
HALF DAY EX.				
SH.				

Note: EX = exclusive
SH = shared

29. What is the current charge for a full day exclusive charter?
For a 3/4 day?
For a half-day?
For a shared (per person)?

30. How much is the average commission charged to you by desks?

31. What percentage of your business (trips) comes through desks vs. walk-ups (meaning on what percentage of your charters do you have to pay commissions)?

32. How many non-charter trips did the boat make in the past 12 months?

	REC. FISHING	COM. FISHING	NON-FISHING	TOURNAMENT	OTHER?
By owner					
By captain					
By others?					

33. What are your most common gear types used on charter fishing trips?

34. Does the boat have a green stick?

35. How do you decide what species to target?

36. Do you encourage catch and release?

37. How do you decide what to release?

38. In regards to charter trips: What usually happened with the fish that were caught?

Some of the catch was tagged/released _____ fish
Some of the catch was sold by the owner or captain for fish money _____ %
Some of the catch was given to the charter to eat _____ %
Some of the catch was taken home by the (non-captain) owner to eat _____ %
Some of the catch was given to the captain or crew to eat _____ %
Some of the catch was given away to friends _____ %
Other (specify)

39. How many pounds of pelagic fish (ahi, aku, mahi, marlin, ono or spearfish) were landed (not released) on all the boat's trips in the past 12 months?

A.) Pounds from charter fishing:

B.) Pounds from commercial fishing: Percent sold?

C.) Pounds from recreational fishing:

40. How many pounds of non-pelagic fish were landed on all the boat's trips in the past 12 months?

A.) Pounds from charter fishing:

B.) Pounds from commercial fishing: Percent sold?

C.) Pounds from recreational fishing:

41. How far away from any land (straight line) did the boat fish on a typical fullday charter fishing trip in the last 12 months? What was the maximum distance from land that you fished? How far from port did you normally fish?

Typical from land _____ miles
Maximum from land _____ miles
Typical from port _____ miles

42. How much money does it cost for a typical charter fishing trip in each category?

COST ITEM	FULL DAY	THREE QUARTER DAY	HALF DAY
FUEL			
ICE			
BAIT			
FOOD/BEVERAGES (for crew only?)			
CAPTAIN LABOR			
CREW LABOR			
OTHER			

43. Is the captain paid by the trip or does he receive a salary?

44. What is the average tip received for a fullday fishing charter?

45. What is the average tip received for a halfday fishing charter?

46. How are tips split among captain, crew and boat (owner)?

47. How is fish money split among captain, crew and boat (owner)?

48. How much did the boat gross (total before expenses) in the past 12 months from selling fish?

Charter fish money:
Commercial fish money:

49. How much did the boat gross (before expenses) in the past 12 months from charters?

50. How much did the boat gross (total before expenses) in the past 12 months from mount commissions? How are they split among crew, captain, boat?

51. After expenses, what percent of the owner's personal income came from this vessel?

52. What is the zipcode where you normally live?

53. How would you describe your ethnicity?

54. What is your age?

less than 25 years	45 to 54 years
25 to 34 years	55 to 64 years
35 to 44 years	more than 64 years

55. What was your household's total pretax income in the past year, including fishing and charter income?

less than $30,000	$75,000 to $100,000
$30,000 to $40,000	$100,000 to $150,000
$40,000 to $50,000	$150,000 to $200,000
$50,000 to $75,000	more than $200,000

56. Do you have any suggestions concerning how Hawaii's fisheries (not harbors) should be managed or topics which need further study?

SH
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no.98-08

Hamilton, Marcia S.
Cost-earning study of
Hawaii's charter fishing
industry, 1996-1997

Library
NOAA, National Marine Fisheries Service
SWFC Honolulu Laboratory F/SWC3
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DEMCO

Western Pacific
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Management Council

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